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Designed to supplement the day-to-day planning, teaching, and evaluation activities of environmental education teachers at all educational levels, this compilation contains over 1000 resumes of practitioner-oriented documents announced in "Resources in Education" (RIE) between 1966 and 1982. The resumes are organized by educational level (elementary/middle, middle/secondary, secondary, elementary/middle/secondary) in each of four categories: (1) outdoor emphasis; (2) biophysical emphasis; (3) sociocultural emphasis; and (4) multidisciplinary. A list of documents by ED number, an author index, and a subject index (using terms from the "Thesaurus of ERIC Descriptors") are included. (JN)

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Selected Documents on the Teaching of Environmental Education

1966-1982

THE ERIC SCIENCE, MATHEMATICS AND ENVIRONMENTAL EDUCATION CLEARINGHOUSE in cooperation with Center for Science and Mathematics Education The Ohio State University

ESPECIALLY FOR TEACHERS:

ERIC

Selected Documents on the Teaching of Environmental Education

1966-1982

December, 1983

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:3

Especially for Teachers:

Selected Documents on the Teaching of Environmental Education 1966-82

Compiled by John Disinger

and

Robert W. Howe

December, 1983

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If you have comments on this or any other ERIC/SMEAC publication, please send them to us. We appreciate the past comments we've received.

Robert W. Howe Director ERIC/SMEAC

Staff work for this document was completed by Mrs. Linda Shinn and Ms. Rene' Moore.

TABLE OF CONTENTS

| ED NUMBERS BY PAGE | • | •~ | • | • | • | • | • | • | • | • | • | • | • | • | Þ | • | • | • | • | íν |
|-----------------------------|--------|----|---|----|---|--------|---|-----|-----|-----|------------|----|---|-----|-----|----------|-----|----------|-----|------|
| INTRODUCTION | • | • | • | • | • | W. | • | • | • | • | • | .` | • | • | • | • | • (| ۰. | • | xiv |
| AVAILABILITY OF DOCUMENTS | ۶ • | • | • | : | | • | • | • | • | • | • | • | • | | | • | ٠. | | • | xiv |
| SAMPLE RESUME ENTRY | • | • | • | • | | | • | • | • | • | | | • | . • | _•- | , -•- | _•- | • | • | xvi |
| DOCUMENT, RESUMES | | - | | | | | | | | | | | | | , | | | | • | |
| OUTDOOR EMPHASIS | | | | | | | | | | . , | | | | | | | | | | |
| Elementary/Middle | • | • | • | • | • | | • | • | • | • | • | • | | • | - | • | • | • | • | -1 |
| Middle/Secondary | • | • | • | • | • | | • | | • | • | • | • | • | •. | • | • | • | • | • | ' 10 |
| Secondary | | | • | • | • | : • | • | • | • . | • | | • | | • | • | • | • | + | • | 12 |
| Elementary/Middle/Secondary | | | • | • | | .• | ¥ | • | • | | • | | | • | | • | | | • | 1'5 |
| BIOPHYSICAL EMPHASIS | | | | • | | | | • | | | | | • | | | ۳ | | \smile | , - | , |
| Elementary/Middle | | • | : | | • | • | • | • | • | • | • | • | • | • | | • | • | • | • | 26 |
| Middle/Secondary | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | •• | 38 |
| Secondary | • | • | • | • | | **** | • | • | • | | • | • | • | • | • | • | | • | • | 43 |
| Elementary/Middle/Secondary | | • | • | • | • | | • | • | • | • . | , • | • | • | • | | | ٠. | • | • | 60 |
| SOCIOCULTURAL EMPNASTS | | | | | | | | | | | | | | | | | | | | i |
| Elementary/Middle | | | | | | | | • • | | | | | • | • | | | | | .\ | 67 |
| Middle/Secondary | ٠. | • | | | | | • | | • | | | | | | • | | | | | 76 |
| Secondary | | | • | | | | | | • | | | | | | | | | | | . 80 |
| Elementary/Middle/Secondary | • | | | •, | | | | | | | | | | | | | | | | 95 |

11

1 %

MULTIDISCIPLINARY

| | Elementar | y/Mid | dle . | • | • | ţ. | • | • | • | • | • | • | • | • | • | | | • | | : | | • | • | • | • | • | .101 |
|-------|-----------|-------|-------|-----|----|-----|-----|----|---|---|---|----|---|---|----|---|----|---|---|----|---|---|---|---|---|---|------|
| | Middle/Se | conda | ry . | • | | • | • | | | • | • | ** | ď | • | •, | • | .• | • | | • | • | : | • | • | • | | 122 |
| | Secondary | | , . | • | • | • | ₹, | • | | | | | | • | • | • | | | • | | | | • | • | • | • | 130 |
| ٠. | Elementar | y/Mid | dle/S | ec. | on | daı | ÇУ | • | | • | | | • | • | • | | | | | •; | • | • | • | | • | | 146 |
| SUBJE | CT INDEX | | | • | • | | • ' | ٠. | • | • | • | | | • | • | • | | • | | | • | • | • | | | | 161 |
| AHTHO | R INDEX . | | | , | _ | ٠. | | | | • | | | | | | | | _ | | | | | | | | | 241 |

ED NUMBERS BY PAGE

| 4031 333 | 051 012 6/ | 011 | 050 940 43 | 049 917 146 | 046 826 95 | | 046 715 43 | 045 437 122 | . , | | 045 375 101 | 045 350 80 | 044 295 10 | 501 | 607 1 | © 041, 767 · · · 15 | 039 138 146 | 038 224 2 | 038 223 2 | 038 222 1 | 038 207 1 | 035 540 26 | 035 473 1 | 034 676 1 | | | 853 | 844 | 812 | 788 | 784 | 032 220 26 | 028 086 43 | 027 991 1 | 024 484 1 | 017, 377 130 | ED ' Page |
|------------------|------------|-----|------------|-------------|------------|-------------|------------|-------------|------------|-------------|-------------|------------|-------------------|-------|------------|---------------------|-------------|-------------|-------------|-------------|---------------|-------------|-----------|-----------|-----|-----|---------|-----|-----------|-----|-------------|-----------------|------------|-------------|------------|--------------|-----------|
| 004 107 • • • 00 | 989 1 | 162 | 063 151 | 063 111 60 | 062 234 76 | 062 182 146 | 062 180 44 | °062 176 44 | 062 122 60 | • | 061 118 102 | 061 | 061 060 • • .: 44 | 059 🔨 | 061 058 60 | 061 034 2 | 059 958 80 | 059 950 26 | 059 949 102 | 059 948 102 | 059 947 101 . | 059 926 146 | • | | 127 | 049 | 874 . 7 | 873 | 940 . ? . | | 833 | 806 | 055 018 67 | 055 015 130 | 053 946 44 | Q53 945 43 , | ED Page |
| 013 022 • • • 01 | 022 | _ | · : | . 071 267 | 071 266 45 | 071 265 | 071 264 45 | 070 681 103 | • • | 070 635 131 | 070 615 45 | 078 588 2 | 069 468 15 | | 068 366 27 | 068 348 81 | 068 339 80 | 068 337 131 | 067 304 80 | 067 246 102 | 067 245 131 | • 1 | 243 | 242 | | 233 | 218 1 | 202 | 407 | 366 | 066 308 146 | 066 298 130 🚁 . | 065 351 26 | 065 345 | 065 309 15 | 064 196 1,46 | ED Page |

| • | | |
|--------------------------------|--|---------------|
| 073 913 | 086 499 104 | 093 634 104 |
| 073 923 103 | 086 500 104 | 093 648* 48 |
| 074 038 16 | 086 507 131 | 093 673 104 |
| 075 223 76 | 086 522 46 | 093 682 48 |
| 075 315 76 | 086 552 46 | 093 743 68 |
| 077 ¹ 723 • • • 131 | . 086 553 47 | 094 912 3 |
| 079 048 27 | 086 554 47 | 094 948 48 |
| 079 068 .' 147 ~ | 086 555 47 | 096 085 3 |
| 079 100 45 , | 086 556 47 | 097 211 4 |
| 080 291 103 | 086 557 : 47 | 097 219 104 |
| 080 344 . , . 3 | 087 188 47 | 097 221 105 |
| 080 348 : • • 147 | 087 189 47 | 098 072° 81 |
| 080 349 95 | 087 576 3 | 098 084 68 |
| -080 361 60 | -,087 68 8 8 1 | 098 096 132 |
| 080 367 68 | 088 722 81 | 098 098 48 |
| 080 368 27 | 089 899 16 | 098 100 81 |
| 081 595 122 | 089 993 147 | 099 186 132 . |
| 081 601 131 | 891 172 · · · 148 | 099 187 82 |
| 081 602 103 | 091 268 68 | 099 188 49 |
| 081 607 3 | 091 269 68 | 099 189 132 |
| 081 608 3 | 092 358 48 | 099 190 132 |
| 082 919 16 | 092 374 148 | 099 191 132 |
| 082 978 38 | 092 376 148 | 099 192 132 |
| 082 982 76 | 092 377 76 | 099 199 133 |
| 083 004 147 | 092 378 122 | 099 200 133 |
| 083 117 103 | 092 379 122 | 099 210 68 |
| 085 165 | 092 388 3 092 389 104 092 390 104 092 391 104 | 099 213 76 |
| 085 247 103 | 092 389 104 | 099 214 38 · |
| 085 248 122 | 092 390 104 | 099 215 49, |
| _085 249 122. | 092 391 104 | 099 216 105 |
| 086 473 131 | 092.395 148 | 099 217 105 |
| | 092 437 148 - | |
| 086 483 46 | 093 589 🕶 148 | 099 219 105 |
| 086 484 46 | 093 599 48 093 619 48 093 621 148 | 099 220 105 |
| 086 485 46 ' | 093 619 48 | 099 221 105 , |
| 086 486 46 | 093 621 148 | 099 229 38 |
| 086 487 46 | 093 633 27 | .099 230 49 |
| • | | |

| ÷ | 099 | 231 | ۸. | | 38 | | 100 | 689 | • • | . 123 | 3 | | Í03 | 243 | | | 29 | |
|----|------------|-------------|------|---|-------------------|----------|------------------|-------------|------------|---------------------|----------------|---------------------------|---------------|--------------|-------|--------------|-------|----|
| | 099 | 23 2· | | | 82 | ٠, | 100 | 690 | | . 123 | 3 | | 103 | 244 | | | 16 | |
| | 099 | 233 | | | 123` | • | 10 | 691 | . • | . 123 | 3 | | 103 | 245 | | | 29 | |
| | (099 | 234 | ٠, . | | 133 | | 100 | 692 | | . 134 | | | 103 | 246 | • • | • | 29 | |
| | 099 | 235 | ٠, | | í 33 | | 100 | 693 | | . 107 | , | | 103 | 247 | | • | 29 | |
| / | 099 | 240 | | | 133 | | , 100 | 694 | | . 107 | , | ٠, | 103 | 248 | • • | • | 29 | |
| | 100 | 639 | | | 4 | • | 100 | 695 | | . 108 | 3 | | 133 | 249 | | • | 29 , | |
| | 100 | 644 | | | 16 | , | 100 | 696 | • • | ./124 | | | 103 | 250 | | | 61 | |
| | 100 | 649 | • •• | | ` 69 | | 100 | 697 | | . 50 |) [*] | | 103 | 251 | • • | • | .39 | |
| | 100 | 650 | | | 69 | • | 100 | 698 | ٠٠. | . 50 |) | | | 252 | | , | | |
| | 100 | 652 | | | ` 27 | | 100 | 712 | • • • | . 28 | 3 - | , | 103 | 253 | | \checkmark | 50 | |
| | 100 | 653 | : . | • | 27• | | 100 | 777 | | . 82 | ! | | 103 | 294 | | <i>6</i> ' | 82 | |
| | 100 | 65 4 | • :- | | 106 | • | 100 | 778 | . : | : 69 | <u> </u> | • | 104 | 639 | | • ! | 108 | |
| | 100 | 655 | | • | 106 | | 101 | 937 | • | . 60 | | • | 104 | 651 | • | • | 50 | |
| | | 656 | | | - | | 101 | 940 | | . 28 | 3 | * | 104 | 794 | ٠. | • | 83 - | |
| | 100 | 657 | | • | 106 | | 101 | 941 | • • | . 108 | 3. | (| 106 | 054 | | • | 16 | |
| | 100 | 658 | | | 106 | 4 | 101 | | · · | | | | 10 6 | 055 | | • | 95 | |
| | 100 | 659 | • • | • | 133 | $\hat{}$ | 101 | 943 | • • • | . 69 |) | | 106 | 057 | | • . | 108 | |
| | 100, | 660 | | • •. | 82 | | [°] 101 | 944 | •.• | . 108 | } . | ₹ | 106 | 07ପ୍ | • • | • . | 149 | |
| | 100 | 661 | | • | 1,23 | | 101 | 945 | | 50 |) | | 106 | 084 | ٠. | • | 50 | |
| | 100 | 662 | | | 49 | | 101 | 959 | | : 124 | | | 106 | 087 | | • ; | 109 | |
| | 100 | 663 | | | 49 、 | | 102 | 031 | •. | . 148 | 3 | | 106 | 088 | • • | • | 39 | |
| | 100 | 664 | | • • | 133 | | | | • | 69 | | | 106. | 095 | ; . | • ! | 135 | 1 |
| | 100 | 665 | | • | 106 | | 103 | 196 | • • | . 149 | • ` | | 106 | 2:13 | • • | • | 16 | |
| • | 100 | 666 | 1. | 1. | 134- | • | 103 | 201 | : . | . 134 | • | | 107 | 446 | • • | • | 83 | |
| | 100 | 667 | . , | | 49 / | • | 103 | 213 | ٠. | . 28 | }, | | <u>1</u> 07 | 468 | • • | • | 149 . | |
| | 100 | ·668 | . ' | • • | 107/ | ٠. | 103 | 219 | | . 149 | , | | 107 | 47,1 | • • | • . | 51 | • |
| | 100 | 669 | | • | 107 | | , 103° | 233 | ٠. | . 28 | \ | | 107 | 4,80 | • • | | 135 | |
| • | . 100 | .670 | | ķ.,•• | 134. | | 103 | 234 | • • | . 60 |)/ , | 4 | 107 | 549 | | • | 83` | |
| | 100- | 671 | | • ,• | 123 | * | °,103 | 235 | • | . 28 | } `` | ., 130th A. | 108 | 874, | • • | ٠, | 16 | |
| ٠. | - 190 | 672 | • • | • | 134 | ,7 | 7.9 | ₄236 | | . 124 | ' | | 108ٍ | | ٠, ٠ | • | 17 | • |
| | | 673 | | | 69 ⁶ , | | 103 | • | | 28 ءِ | 3. | . 0 | • | 87,6 | *12 | • | .17 | * |
| | 100 | 674 | | | 82 .* | | * | 238 | - X . (.) | 38 | 3 | | | . 890 | | • | 51. | |
| - | 100 | 676 | | • | 27 | 4 | 103 | 239 | J. J. | · 38 | } . • | | 108 | 891 | •• •, | • | 51 | ٠. |
| | 1,00° | 686 | | • • • | 107 | ٔ و ۲ | 103 | | | ¥×76 | | • | i 10, | 396. | • • | • _ | 8,3 | |
| ί. | ~100 | | • | | 107 | 43. | 103 | 241 | e mare | . ,29 | 200 | | | 662 | • | • } | 149 | |
| ٠, | 100 | 688 | | . مرکب | 134 | 2 2 4 | <i>ే</i> 103 | 242 | | آ ءِ 108 | المنتوج | ,, | 1 ,11. | 663 | • | `.] | 149 | |
| | | *53 | 1 | ٠. | | · • | د م | , | | | | | | • | 1 | | | |

| • | > | | | | | | | | | | | | | | | | | | | | • | | |]. | | | | · / | • | | | | | 4 | | • | |
|----------|-------|------------|------------|-----|-----|----------------|-----|----------|-----|-------------|-------------|---------|---------|------------|----------|-------------|--------------|-----|---------------|------------|------------|-------------|----------|-------------|--------|----------|------|----------|-------|------------|-------|----------|----------|------------|-----|-------|-------------------|
| - | • • • | 24 | | • | • | | | | | | | • | ·. | | | | • | | ι | | | | | | | | ~/ | / / | | 50 | | | | * | # | | |
| | 120 | 120 | 120 | 120 | | 120 | 120 | 120 | 120 | 611 | 119 | 119 | 1 | 119 | 16 | 81 , | 118 | 118 | 116 | 116 | 116′ | 116 | 116 | # | 114 | 114 | 114 | 113 | 113 | 113 | 113 | 113 | 113 | <u>113</u> | 113 | 111 | 111 |
| • | ₽69 | 890 | 054 | 053 | 049 | 048 | 046 | 045 | 044 | 965 | 964 | 963 | 962 | № | 960 | 526 | 486 | 360 | 981 | 947 | 946 | 914 | 91.0 | \$ | 269 | 26.25 | 254 | 269 | 256 | 216 | 215 | 214 | 151 | 148 | 143 | 716 | 664 |
| | • | • | • | • | • 🛴 | - # | • | 3.74 | • | | • | •, | • | • | • | • | • | • | • | + | • | • | • | • | • | 7 | | • | • | • | • . | • . | • | • | • | : , | |
| | • | ; | • | • | • | • | • | • | • | • | • | • | ~• | •. | • | .• | • | • | • : | • | • | * | • | • | • | •/ | • | • | • | • | • | • | •. | • . • | • | • | f. |
| | • | • . | - | • | • | • , | • | • | • | • | • | • . | • | • | • • | • | • | • | • | • • | | • | ٠. | 1 | • | • | • | • | • | • | • | | | | • | • | , |
| | .85 | 48 | 96. | 70 | 77 | 77 | 77 | 70 | 77 | 61 | 61 | 95, | 95 | ઝ | 30 | 84 | 84 | 17 | 84 | , [50 | 50 | 35 | 12 | 30- | 95 | 601 | 4 | 8 | .8 | 83 | 83 | 60 | 150 | 124 | 150 | 83 | ر 'و ک |
| | , | | ·• | | ì | , | | - | | | | • | • | , | •1 | | | | • | • | . . | | | | | | | • | | | | _ | 4 | | | | |
| | | ' 、 | • | | | ٠ | | | | | | | , | | | | | | ل | ۱. | / | | \$ | | | | | | | | | ٠ . | • | | | 4 | |
| | 128 | 128 | 128 | 128 | 12 | ·127 | 12 | भ | 1ž | 125 | . 23 | <u></u> | 12 | *** | . 12 | 125 | 125 | ĭĭ | , 12 | 12 | 125 | 125 | 124 | 124 | 123 | 123 | 123 | 123 | 121 | 121 | 121 | 121 | · 121 | 121 | 121 | 12.* | ્યું 121 |
| | | | | | 127 | | | 125 1 | 125 | | 125 | 125 | 125 | | 125 | | | 125 | | 125 | | | | | | | | | | | | | | | | | |
| | 289 | 185 | <u>163</u> | 180 | 161 | 160 | 938 | 937 | 933 | 931 | 9 30 | 928 | 925 | 868 | 885 | 883 | 871 | 868 | 865 | 862 | 855 | 852 | 451 | 1 50 | 136 | 095 | 055 | 034 | , 656 | 655 | 654 | 653 | 569 | 568 | 567 | .566 | 565 |
| | • | • . | . • | • | • | • | • | • | • | •• | • | • | • | • | • ; | • | • | • | • | • | • | • | • | • 7 | : | • | • . | • | • | • | • | • | • | • . | • | • 4 | • |
| 4 | • | • | : | • • | • | • | • | • | • | • | • | • | • | • | • | • | , \ | • | • | • | • | • | • | 4 | • | • • | ۱. و | • | • | • | • ; | • | • | • | • | • | •• |
| <u> </u> | • | • | • | • | • | • | • | • | •• | • | • | • | • | · — | • | - | - | _ | · | _ | • | • | • | Ĭ | - | <u>.</u> | • | <u>.</u> | • | | 8 | | <u>.</u> | <u>*</u> (| | | _ |
| | 77 | 39 | 31 | 30 | ထွ | 30 | 86 | 86 | 8 | 86 | 86 | 86 | 85 | 51 | 61. | 51 | , <u>5</u> 1 | 13 | <u>51</u> . | <u>\$1</u> | 17 | 17, | 70 | 70 | 51/ | 150 | • | 150 | 85 | 8 6 | 85 | 8 | 150 | 601 | 70 | 30 | - - - |
| | | | | • | - | | | | • | | | | | • | 1 | | | • | • | | • | | | 1 | 1 | | | | | , | v | | ٠, | • | | Ŷ | |
| | | | | | • | | • | | | • | | , | : | | | | , | • | | j | - | | | | f | | • | • | | | | • | | 7 | | | |
| | 134 | 134 | . 134 | 133 | 133 | 13 | 193 | 133 | 133 | 133 | . 133 | 133 | . 133 | 133 | 133 | 133 | 133 | 133 | 133 | 133 | 133 | 13 | 133 - | _133 | .133 | 133 | 133 | 133 | 133 | 132 | 130 | ,130. | 130 | .130 | 평 f | 130 | 129 |
| ٠. | _ | | | | | | | | | | | | | | | | | | | | | | | | | | | _ | | | | 3.0 | | | | Ÿ | |
| | 433 | 415 | 408 | 231 | 260 | 129 | 228 | 227. | 226 | 225 | 224 | 220 | 51.9 | 218 | 217 | 216 | 215 | 214 | 213 | 212 | 211 | 210 | 209- | 208 | ,207 | 151 | 158 | 144 | 140 | 110 | 927 | 831 | 833 | 822 | 821 | 820 | 53 5 |
| _ | • • | • | • | • | • | • | • | | ٠. | • | • | • " | • | • | • ′ | • | • | :• | • | •, | • | * | ٠.\ | 4 | • | • | • • | • | • | • . | • . | • | • | · | • | •• | |
| • | : | • | • | : | • | | • | : - | • | : | • | : | • | : | • | • | : | : | : | • . ′ | : | 1 | | 1 | : | • | : | | • | • | | : | : | : . | • | | • |
| | 4 | = | | • | | • • • | Ċn. | | | | | = | 13; | _ | = | = | | = | 1. | Ξ: | Ξ. | ,,,,, | Ξ. | } | 135 | | 1.3 | | _ | | | Ξ. | 1.5 | Ξ. | Ξ. | | |
| · | 4 | À | · <u>æ</u> | 2 | 2 | . 2 | 2 | <u> </u> | .21 | <u>,</u> | <u> </u> | 37 | , ** | ļ37 | 136 | 136 | 136 - | 136 | \ <u>13</u> 6 | 136 | 136 | <u>1</u> 36 | 135 | 35 | ٠ ټ | 77 | = | 31 | 8 | 70 | 70'. | 124 | 152 | 124 | 601 | 7 | 7 |
| | | , . | ٠. | ٠, | • | | | • | | | • | | , Ag | | ~ | | | | • | | • | | | ' | • | | · | | ٠, | | · [7] | }_ | , | . • | 10 | | ٠, |
| •# | , •• | , | • | | | | | | | | ٠. | | | • | - | | | | | | , | , , | | \cdot | • | | • | | • | | . 4 | B | | | | | |
| - | | .I | | ` • | • | | , | • | ~, | . 13 | ı | - | • | _ | | | | | - | _ | | ٠. | | | * | | | | | | | - | ٠ ــر | ' i | | . و د | |
| | | | | | | | | | | - | | | | | | | | | | - | | | _ | | | | | _ | | | | - | | | | | |

12:

| | | | ٠ ١ |
|---------------------------|---------------|-------------------|---------|
| 134, 434 152 | | 149 981 | |
| 134 448 109 | 141 178 153 | 149~982 | . 111 . |
| 134 449 124 | 141 953 18 | . 149 983 | . 72 |
| 134 455 61 | 141 427 110 | 149 984 | . 112 |
| 134 526 137 | 142 429 110 | 149 985 | `. 72 |
| 134 535 110 | 142 433 31 | 149 986 | . 32 |
| 134 536 110 | . 142 481 96 | 149 987 | . 112 |
| 134 537 124 | 142 488 71 | 149 988 | . 112 |
| 134 538*137 | 142 489 71 | ,149 989 | . 138 |
| 135 648 152 | 144 · 332 153 | 149 990 | . 88 |
| 135 649 77 | 144 786 110 | 149 991 | . 88 |
| 135 656 : 137 | 144 787 125 | 149 992 | |
| 135 690 71 | 144 788 138 | 149 993 | . 52 |
| 135 694 71 | 144 794 153 | 149 994 | . 53 |
| 137 056 125 | 144 824 4 | 149 995 | . 88 |
| 137 063 31· | 144 825 18 | 150 026 | . 153 |
| 137 064 137 | 144 826 153 | 150 079 | . 72 |
| 137 065 87 | 145. 845 32 | 150 783 | . 32 |
| 137, 075 52 | 146 044 32 | 151 123 | . 18 |
| . 137 100 125 | 146 048 32 | 151 297 | . 72 |
| 137 140 152 | | 152 498 | . 18 |
| 138 436 152 | 147 188 52 | 152 499 : . | . 18 |
| 138 461 31 | 147-216 87 | 152 531 | . 32 - |
| 138 462 31 | 147 222 87 | 152 541 | . 153 |
| · · | 147 223 87 | 152 643 | |
| 138 538 87 | 147 224 88 | 153 819 | . 112 |
| 139 671 138 | • | | |
| 141 081 152 | | | |
| 141 094 78 | | | |
| 141 116 153 | | 1 | |
| 141 141 110 | | i | |
| 141 142 71 | • | 153 845 | · 112 . |
| 141 145 39 | 149 843 111 | 153 846 | . 112 |
| 141 157 87 | 149 964 138 | 153 859 | . 112 |
| 141 158 52 141 159 138 | 149 965 138 | 153 923 | . 89 |
| 141 159 138 | 149 979 111 | 154 986 | . 139 |
| 141 162 87 | 149 980 111 | 154 996 | . 154 |
| | | | |

| 154 999 32 | 157 773 | 165 972 5 |
|--------------|----------------------------|-------------------|
| 155°069 96 | 57 817 📜 72 |) 165 973 5 |
| 156 463 154 | 157 818 72 | 165 974 20 |
| 156 473 154 | 157. 819 73 | 165,975 21 |
| 156 478 33 ° | § 157 820 139 | 165 976 21 |
| 156 479 53 | 👼 157 834 🍰 . 73 | ⇒ 165. 977 21 · |
| 156 480 58 | 157 835 🍀 . 73 | 165 988 155 |
| 156 481 89 | 157 836 🚡 73 | 165 991 139 |
| 156 482 89 ~ | 157 837 📳 89 | 166 009 4 114 |
| 156 483 53 | 158 301 🖗 113 | 166 010 114 |
| 156 484 53 | 158 302 🖟 113 | 166 011 114 |
| 156 485 89 | 158 303 139 | 166 012 114 |
| 156 486 89 | 158~906 12 | 166 013 114 |
| 156 529 19 | 158 930 19 | 166 014 114 |
| 156 530 19 | 159 075 154 | 166'015 ./ 115 |
| 156 531 19 | 159 106 97 | 166 016 155 |
| 156 532 19 | 160 281 19 | 166 032 . 🕽 . 155 |
| 156 593 96 | 160 282 5 | 166 -060 \. 139 |
| 156 594 96 | 160 283 20 | 166 ,301 90 |
| 156 595 97 | 160 284 5 | 167 311 \ 5 |
| 157 662 4 | 160 285 20 | 167 312 \10 |
| 157 666 19 | 160 286 20 | 167 317 1/2 |
| 157 680 33 | 160 418 61 | 167 355 115 |
| 157 681 61 . | 160 528 97 | 167 365 90 |
| 157 682° 113 | 161 727 62 | · 167 366 90 1 |
| 157 683 113 | 161 754 90 | 167 367 🍖 90 |
| | 162/885 97 | |
| 157 758 53 | 162 886 97. | 167 369 140 |
| | 162 897 154 | |
| 157 762 113 | 162 905 73 | 167 371 91, |
| 157 .763 113 | 164 192 20 | 167 .372 91 |
| | . 164 289 113 | |
| 157 765 126 | 164 334 · · · 53 · · · 114 | 167 374 91 |
| 157 766 4 | 164 341 114 | 167 393 62 |
| 157 768 154 | 164 414 73 | 167 395 62 |
| | 164 417 90 | |
| 157 771 33 | 165 970 20 | 167 402 115 |
| • | · 3000. | *• |

| 167 409 33 | 173 150 39 | 177 012 141 |
|---------------------------------------|---------------------------|--------------|
| | 173 163 54 | |
| | 174 364 10 | |
| • | , 174 365 10 | ` |
| · · · · · · · · · · · · · · · · · · · | _ | _ |
| | _ | 178 231 7 |
| 167 450 115 167 451 126 | 174 367 11 | 178 232 7 |
| · | | 178 335 117 |
| 167 452 140 | 174 '371 155 , | 178 350 126 |
| 167 454 155 | | 179 351 117 |
| • | 174 431 22 | |
| l. | 174 432 116 | • |
| 168 877 33 | • | 179 355 55 |
| 169 256 116 | 174 436 140 | 179 356 55 |
| 169 563 : 126 | 174 442 33 . | 179 374 127 |
| • | | 179 375 141 |
| 170 101 21 | • | 179 395 55 |
| 170 135 62 | 175 590 6 | 179 411 55 |
| 170 138 53 | 175 591 6 | 179 412 141 |
| 170 139 155 | 175 592 6 | 179 414 55 |
| 170 141 54 | 175 593 6 | 179 415 141 |
| 170 151 116 | 175 594 6 | 179,416 55 |
| 170 152 116 | 175 718 34 | 179 417 56 |
| 170 153 54 | 175 722 126 | 179 421 156. |
| 170 896 21 | 175 723 54 | 179 436 91 |
| 171 456 5 | 175 724 34 | 179 443 63 |
| 171 466 22 | 175 726 156 | 179 484 91 |
| 171 475 22 | 175 726 156 175 728 54 | 179 792 127 |
| 171 597 91 | 175 729 54 | 179 793 39 |
| 171 807 116 | 175 730 : 55 | 179,794 39 |
| 173 057 12 | 176 905 22 | 179 795 78 |
| 173 062 22 | 176 908 12 | 179 980 91 |
| • | 176-909 22 | |
| 173 082 140 | 176 910 6 | 180 774 91 |
| 173 086 116 | 176 911 6 | 180 791 56 |
| 173 115 155 | 176 957 156 | 180 794 156 |
| • | 176 960 62 | |
| i ' | 176 984 156 | |
| | , | * |

| 184 859 56 | 817 : | | 734 | 183 456 97 | 183 416 157 | • | • | • | 363 | 357 | | 297 | 763 | 182 180 117 | 144 | 137 | 136 | 135 | 134 | 133 | 132 | 131 | 118 | 114 : | 113: | 110 | 656 | • | 833 | • | • | • | • | 180 813 12 | • | 811 |
|------------|-------|-----------|---------|------------|-------------|---------|----------|---------|---------|-------|---------|-----------|---------|-------------|------------|---------|-----------|-----------|---------|-----------|---------|-----------|--------|--------|---------|--------|-----|--------|-----------|----------|-----------|-----------|---------|------------|------------|----------|
| 190 361 | . 190 | , 190 353 | 190 350 | 190 348 | 190 346 | 190 344 | 188 977 | 188 936 | 188 919 | 188 | 188 860 | 188 008 | 187 606 | | . 187 | 187 579 | 187 557 | 187 555 | 187 554 | 187 485 | 186 316 | 186 | · 186 | 186 | 186 | 186 | 186 | 184 | : 184 | 184 866 | 184 865 | 184 864 | 184 863 | 184 862 | . 184 861 | 184 860 |
| 40 . 193 | • | | • | | 118 194 | 118 194 | • | 142 194 | | 8 193 | .57 193 | 117 🧗 193 | 98 193 | 63 193 | 63 193 | , | 157 · 193 | | 117 193 | | ٠. | | 40 193 | 34 193 | 7 . 191 | 34 191 | • | 34 191 | | 92 . 191 | 56 .* 191 | .42 : 190 | 41 190 | 92 190 | 92 190 | 41 190 |
| 3898 | | | 352 | 349 | | | 4 302 57 | | | | | | | 3 059 118 | 3 058/ 118 | 3 055 8 | | 3 053 118 | 048 | 3 047 142 | 031 | θ30 · · · | 029 | | 749 | 748 | | | 743 . : . | 698 | 697 | | 399 | | 0 363 , 41 | 0 362 41 |

16

| 195 396 92 | 200 381 13 | 204 183 35 . |
|---------------------------|---------------------|---------------------------------------|
| 195 399 128 | 200 397 143 | 204 184 36 |
| 195 403 158 | · · | \$204 185 36 |
| 195 544 24 | | 204 186 36 |
| 196, 102 142 | . 200 409 57 | 205 346 8 |
| 196 577 8 | 200 410 57 | 205 395 64 |
| 196 702 56 | 200 414 93 | 206 418 8. |
| 196 704 159 | 200 418 98 | 206 419 • • 8 |
| 196 724 118 | 200 424 159 | 206 420 9 |
| 196 .725 143 | 200 435 159 | 206 421 9 |
| 196 726 159 | 200 445 35 | 206 465, . 119 |
| 196 728 : 64 | 200 450 119 | 206 466 36 |
| 196 731 13 | 200 453 35 | 206 467 36 . |
| 196, 788 74 | 200 454 35 | 206 468 36° |
| 197 924 13 | 200 481 159 | 206 469 36 |
| 197 996 35 | 201 421 24 | 206 470 119 |
| 197 997 74 | 201 422 13 | 206 471 120 |
| 197 998 74 | 201 423 13 | 206 517 99 |
| 198 005 119 | 201 424 14 | 207 811 143 |
| 198 010 64 | . 201 501 • • • 143 | 207 817 160 |
| 198 011 41 | 201 508 41 | 207 818 144 |
| 198 012 41 | 201 509 35 | 207 824 41 |
| 198 013 64 | 201 510 35 | 207 851 128 |
| 198 017 98 | 201 523 143 | 207 858 57 |
| 198 018 98 | 201 561 98 | 207 859 93 |
| 198 980 24 | 202 717 93 | 209 061 9 |
| 199 085 64 | 202 719 143 | 209 062 24 |
| 199 092 159 | | |
| 199 096 119 | 202 726 93 | 210 171 120 |
| 199 109 128 | 202 727 64 | 210 172 57 |
| 199 114 41 | 202 729 119 | 210, 182 99 |
| 199 115 78 | 202, 765 93 | 211 358 37 |
| 199 115 78 199 116 143 | 202 963 159 | 211 361 65 |
| 199 120 74 . | 204 084 24 | 211 365 42 |
| 199 146 119 | 204 105 64 | 211 373 42 |
| 199 175 92 | 204 138 159 | 211 374 128 |
| 200 279 92 | 204 182 35 | 211 375 128 |
| | • | · · · · · · · · · · · · · · · · · · · |

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|----------------------------|--------------|
| 211 376 78 | 216 907 37 |
| 21] 377 42 | 216 927 57 |
| 211 378 37 | 218 094 99 |
| 211 - 379/ 42 | 218 154 154 |
| 211 388 144 . | 218 160 160 |
| 211 389 120 | 218 162 160 |
| 212 411 120 | 218 204 99 |
| ,212 458 120 - | 219 234 37 |
| | |
| 212 459 128 212 460 120 | 219 268 58 |
| 212 461 129 | |
| 212 492 120 | 219 270 144 |
| 212 493 120 | 219 271 58 |
| 212 494 129 | 219 272 145 |
| 212,519 | 219 273 58 |
| 213 163 25 | 219 274 58 |
| 213\164 25 | 219 275 58 |
| 213 580 121 | 219, 276 59 |
| | 219 277 145 |
| 213 582 129 | ,219 278 145 |
| 213 583 144 | 219 281 42 |
| 214 752 160 | 219 286 9 |
| 214,792 121 | 219 287 145 |
| 214 794 144 | 219 327 160 |
| 214 838' 78 | |
| 214 841 129 | • |
| 214 842 79 | |
| 215 863 93 | • |
| 21 920 79 | |
| 215\921 99 | • • • |
| 215 923 75 | |
| 215 926 75 | . ` |
| 215 939 99 | • |
| 216 081 75 | |
| 216 369 94 | , |
| 216 828 14 | |
| | • |

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INTRODUCTION

Try as they might, classroom teachers often do not have enough information at their fingertips to revitalize their lesson plans. They feel the urge to stimulate student learning with fresh teaching approaches, but they wonder how and where they can find the information. They need ready references without having to buy all the "how-to" books on the market. The ERIC database has responded to these needs for many years, offering access to the shared secrets of teachers, administrators, and educational researchers. Now, as part of a systemwide effort to provide information analysis products of current interest to particular users, the ERIC Clearinghouse for Science, Mathematics, and Environmental Education offers this compilation of teaching materials for environmental education.

Designed to supplement the day-to-day planning, teaching, and evaluation activities of environmental education teachers at all educational levels, this compilation contains over 1000 citations chosen after careful review of documents that appeared in Resources in Education from 1966 to 1982. Annotations of articles from the Current Index to Journals in Education were not included. Since a document's selection for this bibliography was made on the basis of timeliness, teacher orientation, and nonrepetitiveness in relation to the other 2,500 documents reviewed, the omission of a document is not to be taken as a judgment of its quality. For the purposes of this bibliography, the term "teacher" represents both parents as the teachers of their preschool children and instructors of adults, young adults, children, and adolescents.

The classification scheme reflected in the Table of Contents, developed from staff recommendations and interviews with teachers, indicates the range of the ERIC database and the nature of the materials in the database. An index using terms from the ERIC Thesaurus of Descriptors provides another avenue of approach to the literature.

Knowing the diversity of teaching styles and teachers' wide-ranging interests and activities, we urge satisfied users of this compilation to return to the ERIC database for additional ideas.

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ED 174 366

Fairnell, Koy, Ed. And Others
Outdoor Biology Instructional Strategies Tetal
Edition, Set II. -Eniv., Berkeley, Lawrence Hall of

Science. Spons Agency-National Science Foundation, Washington, D.C.

Pub Daie-Jun 75 Grant-NSF-SED-72-05823

Grant—NSF-SED.72-05823
Note—175p.
Note—175p.
Available from—Outdoor Biology Instructional Strategies, Lawrence Hall of Science, University of Cainfornia, Berkeley, California 94720 (59 60).
Pub Type—Guides Classroom - Learner (051)—Guides - Classroom - Teacher (0521
EDRS Price - MF01/PC07 Plus Postage,
Descriptors—Activity Units, Animal Behavior, Biology, "Biology Instruction, Construction (Process), Earth Science, Ecology, Educational Games

Observiors—"Activity Units, Animal Behavior, Brology, "Biology Instruction, Construction (Process), Earth Science, Ecology, Educational Games, Elementary Secondary Education, "Environmental Education, "Experiential Learning, Field Instruction, "Group Activities," Illustrations, Instructional Materials, Learning Modules, "Outdoor Education, Water Resources, Youth Clubs, Youth Programs
Identifiers—"OBIS Program, Outdoor Biology Instructional Series

structional Series
The 24 activities in the Outdoor Biology Instructional Strategies (OBIS) Trial Edition Set II use living organisms such as crabs, birds, crayfish, lichens, and insects to investigate biological interrelationships, organism behavior, and species density to promote greater environmental and sensory awareness. The activities, designed primarily for grouping children ages 10 to 15, focus on terrestnai, beach. freshwater, marine, woodland, and other habitate Light and its effect on animal behavior, study of intertical plant and animal colonies, hibernation sue study, companson of inseess in lawn areas and weedy areas, a simulated oil spill, investigation of sea movements and currents, and a series of envi-ronmental games are amon8 the specific activities. Each is presented in a folio with an introduction, list of materials, action, discussion, and follow up. There are three additional folios: (1) an introduction to OBIS: (2) a "Leader's Survival Kit", with suggestions for the combination of the Set I and II activities into various learning modules organized by biological or environmental concept, skill, or habitat: and (3) an OBIS Tool Box. containing Equipment and Technique Cards with instructions for the construction and use of inexpensive equipment, such as bird feeders and tide stakes. (SB)

Clearinghouse Accession Number.

Sponsoring Agency—agency responsible for initiating, funding, and managing the research project."

Descriptive Note (pagination lirst)

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Identitiers-additional identifying terms not found in the Thesaurus of ERIC Descriptors , Only, the major ferms, preceded by an asterisk, are printed in the subject index

Informetive Abstract.

Abstractor's Initials.

Outdoor Emphasis

Elementary/Middle

RC 002 671 Outdoor Education Curriculum Guide, Grade 6. Jefferson County Public Schools, Lakewood.

Pub Date 63

Pub Date 03
Note_188p.
EDRS Price MF-50.75 HC-59.30
Descriptors—Art. Astronomy Conservation
Education. Core Curriculum "Curriculum
Guides. Ecology. Enrichment Activities. Field
Trips, "Grade 6. Health. Laboratory Schools.
Learning Activities. Natural Resources. "Outdoor Education. Personnel Policy. Program
Content Program Descriptions. "Program
Content Program Descriptions." Development. Records (Forms). Recreation. Scheduling Staff Role As developed for a 6th grade outdoor educal

non program. this curriculum guide is organized around a common core designed to teach conservalues and appreciation of patural resources Program initiation, methods and plocedures, information on natural resources, suggested time schedules, learning activities, nature hikes, and held trips are discussed to familianze the teacher with the program Maps, charts, and illustrations add detail to the narrative, explaining the ourdoor advisions school Supporting programs in as-tronomy, art, health and safety, weather, recrea-tion, and various work projects are designed to add enrichment to the basic core. Rules for stu-dents, letters to parents, materials and equipment. lists, and various forms utilized are contained in the Appendix (SW)

ED 027 991

RC 003 275

Fax. Denves C Outdoor Education: A Guide to the Instructional Program at the Sisth Goade School Camps. San Diego City Schools, Calif. Pob Date 66

Available from—San Diego City Schools SEduca-tion Cetter. Park and El Cajon Boblevard. San Diego. California 92103 (Stock No. 41-C-1200, 53 00)

EDRS Price MF-\$1.00 HC-\$13-15

Descriptors—Camping, *Conservation Education.
*Curriculum Guides. *Grade 6. Instructional Improvement. Instructional Media. Instructional Programs. Instructional Trips. *Outdoor Education. *Science Education. Summer Proposers. Teacher Education. Urban Education.

grapes, Teacher Education, Urban Education ...
The outdoor education program for sixth graders in San-Diego County is described, atons with an account of its development and the finan-cial support structure underlying the program. Eleven major outcomes that can be expected from participation in the outdoor education ptogram are enumerated. An intensive oper-camp teacher-training program, carried on at camp is summatized. The instruction guide contains detailed information about all learning activities temocratic living in a camp sciling, safely and health practices, outdoor science activities, conservation, and creative expression! in which chilthe San Diego district participate during their eamp experience. A glossary of technical terms used in the discussion of programs and practices at the campa is included. A related the RC 003 276, (DA)

SE 006 771 ED 034 676 Busch, Phyllu S. 🔸 SPRUCE Discovery Manual, 169 Investigations

Indoors and Outdoors. Lister County Board of Cooperative Education

Services. New Platz. N Y.

Spons Agency—Office of Education (DHEW).

Washington, D.C. Bureau of Elementary and
Secondary Education

Pub Daic [69]

Note∸60p.

EDRS Price MF-\$0.50 HC-\$3.10

EDRS Price Att-30.50 rac-35.10
Descriptors—*Biology, *Conservation Education,
Ecology, *Elementary School Science, *Instructional Materials, *Outdoor Education,
Science Activities, Teaching Guides Identiflers-ESEA Title III

Identifiers—ESEA Title III

Contained are instructional materials developed by the Science Project Related as Upgrading Conservation Education ("SPRUCE"). It is designed for use with the SPRUCE "Discovery Box" and contains twenty-one sets of investigations based on the twenty-one packets of specimens in the box, there sets are recommended for each of Grades K through 6. Each of the twenty-one lopics is introduced by a "coackground section giving the rationale of the investigations and background information for the teacher. This is followed by four to ten "insectingations -questions and suggested activities estigations --questions and suggested activities which require students to observe and compare. sometimes to do simple experiments, and usually to extend their observations outside the class-room. The early topics emphasize the use of the senses in observing, later ones enable students to make discoveries about the characteristics of or-ganisms and habitats. Themes which run through the investigations are constant change in nature and the interaction between organisms and their environments. The introduction to the manual describes the approach of the materials and makes a plea for improved conservation educamakes a pieca for improved conservation educa-tion ways in which this can be fined into the general curriculum are suggested. The contents of the "Discovery Box" are not fisted, but can be in-ferred from the background sections and in-vestigations. This work was prepared under an ESEA Title III contract. (EB)

ED 035 473 RC 003 931 Outdoor, Education Primary Resource Guide, A Reprint of the Resource Guide for Teaching In-About-For-the Outdoors, 1967. Crystal Lake Community School District Number

Spons Agency—Office of Education (DHEW).
Washington, D.C. Div. of Plans and Supplemeniary Centers. Report No-DPSC-67-4185

Puo Date 67 Nore-6op.

EDRS Price MF-S0.50 HC-\$3.40

Descriptors-Ari. Curriculum Enrichment. Curriculum Guides. "Environmental Education. In. structional Mategials. Language Arts. *Learning Activities. Jointal Resources. *Outdoor Education. *Primary Grades, Resource Guides, Sciences, Social Studies, *Teaching Guides (*Designed for use with students in the first, second, and third grades, the resource guide is

one of a series of 3 booklets (primary, intermediate, and junior high levels) developed by the Crystal Lake, Illinois, school district under a Title Crystar Lake, Illinois, school district under a 1 stie III appropriation of the Elementary and Secondary Education Act. Outdoor education activities are suggested for incorporation into language arts, mathematics, art, physical education, music, and social studies Suggested activities for science and social studies classes are presented by grade level, RC 003 930 is a related document. (TL)

ED 038 207 RC 004 232

Outdoor Education Manual. Nashville - Davidson County Metropolitan Public Schools, Tenn.

Spons Agency—Office of Education (DHEW).

Washington, D.C. Bureau of Research

Pub Date Jul 66

Note -- 113p

EDRS Price MF-\$0.50 HC\S\$.7\$

Descriptors - *Concept Teaching. -Creative Teaching. Curriculum Enrichment. Ecology. Educational Infloration, Educational Programs, *Elementary Grades, *Environmental Education. Evaluation Instituctional Aids, Instruc-tional Materials Mobile Classrooms, Nature Centers. Outdoor Education. Sciences. *Teaching Guides, Teaching Skills

Creative ways to use the outdoors as a part of the regular school curriculum are outlined in this teacher's manual_for the elementary grades. Presented for consideration are the general objec-Presented for consideration are the general objectives of outdoor education, suggestions for calluting outdoor education experiences, and techniques for teaching outdoor education. The putpose and functions of a mobile unit-designed as a workshop, library, and laboratory to aid (teachers-are discussed, and a list of equipment available on the unit (e.g. compasses, maps, and binoculars) is presented. The major portion of the manual hists autdoor education concepts by subject matter and grade fevel and suggests ways the concepts can be incorporated in the everyday curriculum (DB). curriculum (DB)

RC 004 250 Gilfillan, Warren C. Burgess, Robert A. The Counselors' Handbook for the Outdoor School. Multnomah Outdoor Education, Portland, Ore. Pub Date [69]

Note-51p. EDRS Price MF-50-25 HC-82,65

EDRS Price MF-50-25 HC-52,65

Descriptors—Administrative Organization,
Behavior Standards, *Camp Counselor Training, Ecology, Environmental Education,
Evaluation Techniques, Grade 6, *Outdoor
Education, *Resident Camp Programs, Student
Role, Youth Leaders, Youth Programs

Identifiers—Gregon, Portland
Materials available in this manual are designed Materials available in this manual are designed to aid camp couraelors in working effectively with students and with other camp personnel to making the overall camping experience as meaningful as possible. The manual includes sections on (1) the role of the junior counselor in relation to all other persons at the camp. (2) how the Outdoor School is organized. (3) junior countered. selor orientation. (4) understanding the stath-grade student, and (5) specific information for

the junior counselor on camp policies and on clothing and equipment. An appendix includes a tample of evaluation forms used and several lists of rules and regulations pertaining to camping ac-tivities. The Outdoor School program, for this handbook is intended appopriated as a service of the Multinomah County Intermediate Education District in Oregin Sixth-grade classes spend I week in residence at camp with their elassroom teachers and professionally trained camp counselors and directors Related documents are ED OER 376, RC 004 251, and RC 004 253 (DB)

ED 038 223

RC 004 251

Gilfillan, Warren C., Cimp Burgers, Robert A.,

The Student's Guidebook for the Outdoor School. Multinomah Outdoor Education, Portland, Ore. Pub Date 70

Note-SSp

EDRS Price MF-\$0.25 HC-\$2.85
Descriptors—Activities. *Behavior. *Camping. Eculogy, Environmental Education, Equipment,
Grade 6, Orientation, "Outdoor Education,
"Resident Camp Programs, "Student Role,
Summer Programs, Youth, Programs
Identifiers—Oregon, Portland

To prepare students for attending school out-of-doors, this manual addresses the student directly. Topics covered in the first part of the manual include the Outdoor School site the school staff, living at the Outdoor School, studying in the Outdoor School, fun at the school, and a binef paragraph of initial preparation for the Outdoor School The second and major portion of the manual covers clothing and equipment needed, various activities to be undertaken. genetal rules and regulations, and special took for students to make for use at the school Other parts of this section include duty rosters for boys and egirls, discussion of camp manners, elean-up procedures, and hines for cabin living and inspecprocedures, and hints for cabin living and inspection. The Duidoor School is a lowest residence camping capprience deviated for all livith gracers and their teachers in the Vultnomah County Intermediate Education District, Oregon Related documents are ED 018 376, RC 004 250, and RC 004 253 (DB)

ED 038 224

RC 004 253

Gilfillan, Warren C Burgess, Robert 4 The Teachers' Handbook for the Outdoor School. Multnomah Outdoor Education Portland, Ore Pub Date Jul 68 Note - 42p.

EORS Price MF-\$0.25 HC-\$2.20

Descriptors—Activities. Behavior Standards.
"Camping. Ecology. Environmental Education.
Equipment, Grade 6. Orientation. "Outdoor
Education. "Resident Camp Programs. Student
Role. "Teaching Guides. "Youth Leaders. Education, Resident Education, Caching Guides.

Youth Programs Identifiers Oregon, Portland

Built around the role of the reacher in outdoor education, this manual outlines important aspects of an organized Outdoor School program for siath-grade students in Multinomah County, Oregon The manual describes the Outdoor School, staff responsibilities, and orientation to the Outdoor School Specific information for teachers, suggested follow-up activities, and a checklist of teacher equipment and clothing needs are also presented. The prevailing theme of this manual is that the classroom teacher is the manual is that the manual is that the classroom teacher is the manual is that the manual is education, this manual outlines important aspects most important person in dictating the type of experience the sixth grade youngsters will have at the Outdoor School Related documents are EO 018 376, RC 004 250, and RC 00a 251 (OB)

Richeson, Karren Knadek, Janey Interdisciplinary Outdoor Education, Sea and Shore.

Pub Date (72)

Note-41p. EORS Price MF-\$0.6\$ HC-\$3.29

Descriptors—Elementary School Science, "Environmental Education, "Marine Biology, "Oceanology, "Outdoor Education, Resource Materials, "Science Activities, Teaching Guides The teacher's resource guide contains a number of activities for use primarily in kindergatten through third grade. Twenty-four class-room activities are described, most of which inving and discussing various kinds of rving and discussing various kinds of

sea life found at the seashore Background infofmation is provided to the guide so that the leacher can use this unit without requiring many outside resources. Suggestions for organizing a field trip to the seasifor and for creating a "seashore atmosphere" in the classroom are in-cluded, as is a list of equipment and supplies needed for the activities (PR)

ED 063 151 SE 013 763 Environmental Center for Our Schools, Curvice-lum Guide, Grades 4,5,6.

Springfield Public Schools, Mass

Spons Agency-Bureau of Elementary and Secondary Education (DHEW/OE), Washing-

Pub Date Sep 71 Note - 157p.

EDRS Price MF-\$0.65 HC-\$6.58

Desemptors - Curriculum Guides, *Ecology, En-vironmental Education, *Instructional Materais. Intermediate Grades, Learning Activities, Saural Resources, Saural Sciences, Outdoor Education, Teaching Guides Ideatificis—ESEA Title III

included in this curriculum guide are outdoor and environmental study activities for grades four. It is an appreciate the beauties of the lorest, pond, and field, to have them observe the interdependence of irong things in each commumity, and to see the role each member plays of maintaining an ecological balance in the community. Both classroom and on-site activities and suggestions are provided to better coordinate the learning experiences. Where appropriate each acprocedure to follow, and discussion questions. Also included is a list of investigations from the classroom laboratory manual which directly relate to Environmental Center for Our Schools (ECOS) activities for that particular grade level. Facilities at Forest Park, Springfield, Mas-cachusetts are unliked in the ECOS project This work was prepared under an ESEA Title III con-tract. (BL)

ED 06\$ 345 SE 014 423 Outdoor Education Resource Guide.

Prince George's County Board of Education, Upper Marlboro, Md

Pub Date 70 Note __ 26-1p.

EDRS Price MF-\$0.65 HC-\$9.87 Descriptors—*Elementary Grades, Environmental Education, *Instructional Materials, Learning

Activities, Natural Resources, *Outdoor Educa-tion, *Teaching Guides

Developed primarily as a source of information for teachers planning outdoor education ex-periences, the material in this resource book can be used by any teacher in en-ironmental studies Subjects and activities most often taught as part of the outdoor education program are outlined both as resource (basic information) and teaching units. The teaching units suggest pre-camp, camp. and post-camp activities, indicating materials required and procedures to follow for the activities. Topics include, insects, woodland community, shoteline ecology, weather, astronomy, stalking and observing, mapping and orienteering, creative arts, nature crafts, curvival and campcrafts, water safety/and recicution, and campfire programs. A bibliography accompanies each unit together with information specific to the outdoor education program of the Prince George's County public schools (BL)

ED 068 368 SE 015 164 Jacobs, Joel Robert, Ed.

Fifth Grade: Winter and Spring Curriculum Guide.

Hartisburg City Schools, Pa Outdoor and Environmental Education Center Pub Date 72

Note -- 66c

EDRS Price MF-\$0.6\$ HC-\$3.29

Descriptors - "Curriculum Guides, Environmental Education, "Grade 5, Instructional Materials, "Learning Activities, Lesson Plans, "Natural Resources, "Outdoor Education, Units of Study (Subject Fields)
Identifiers—EDLA Title 1 -

Activity plans for fifth grade outdoor expeation

expenences comprise the holk of this curniculum goide. Many of the outlines have been were epid through practical application and expension tation by staff members of the Duidwit and Environ-mental Education Center (CEEC) of the Harrisburg, Pennsylvania, City Schools, Activities and studies for the winter are related to reputes, composition and germination of seeds, history of liv-ing things, rocks and minerals, erosion, topes and knots, camping equipment and outdoor surfaceal, wood cutting, and observation. Spring activities include the study of birds, flowers, simple plants. outdoor cooking, reforestation, and gardening Each plan outlines (1) steps for classroom introducuon of the subject and preparation of the students for their outdoor law satory exercises, (2) information as provided in the OEEC settivity. and (3) topics/projects to consider for classroom follow-up and reinforcement Vocabulars words films, and books are listed where appropriate as supplemental aids. This work was prepared under an ESEA Title I contract. Related documents are SE 015 163 for grade four and SE 014 707 for grade six. (BL)

ED 070 588 SE 014 413 200 Outdoor Science Activities, A Classroom Ex-

* tension.
Ontario Teachers' Federation, Toronto. Pub Date 69

EDRS Price MF-50.65 HC 5339

Descriptors-Ecology, *Elementary Grades, Environmental Education, Field Studies Field Tops, "Natural Resources, "Outdoor Educa-tion, "Science Activities "Teaching Guides

To encourage teachers to use the out of doors m their teaching, this booklet has been prepared by the Ontario Teachers' Federation. It reviews basic approaches to out-of-dients instruction types of field trips, teacher training and sources of instructional assistance pre-planning and follow-up for a field-trip, and points to consider in evaluation. Following this are 200 outdoor science activities, each of which a lows direct exposure to material things out-of-doors so pupils may gain an appreciation of their environment and an understanding of ecological retationships and an understanding of ecoogical retainedships Animals. birds, geology, imec.s. meteorology, physical science, plant lire, sno + temperature, and trees are the topics of study. Each activity is briefly described and coded for unique entronment or activity area (steam, marsh, open field, school year, woodlor, all areas). Concluding information lists resource books for both teachers. and students in many areas of natural resources.

EQ 071 836 RC 006 743

Orenta, Visitar Bartley, H E Relationships through Conservation, Plain Local Schools, Outdoor Education Program. Stark County Board of Education, Louisville.

Ohio Pub Date 71 Note-110p

EDRS Price MF-\$0.6\$ HC-\$6.58

Discriptors—Administrative Organization. Community Responsibility. *Conservation Education, *Grade 6, Hygiene, Instructional Materials, *Manuals, *Outdoor Education, *Resident Camp Programs, Scheduling,
The purpose of this Outdoor Education Programs.

gram was to develop in children a keener insight into the responsibilities of citteenship, as well us a better understanding of man's interrelationship with and dependence on nature. The program was an extension of the school eutriculum to the was an extension of the school curriculum to the out-of-doors and offered opportunities. For developing, many of the socially desirable attitudes, skills, habits, and interests needed for later life. This manual is intended as a basic source for, both experienced and inexperienced outdoor personnel. Planning for the camp is discussed in terms of the organization of the outdoor education program, the schedule of setisities; living in the camp community, getting acquainted with the new environment, the outdoor education routine, evaluating the outdoor education experiences, and the notions education teacher and counselor, which includes the class room teacher's responsibilities in preparing the students to go to camp and suggests pre- and post-outdoor education activities for the classroom Specific instructional units include Water and Related Uses. Rocks and Soils, Living Things of the Season, and Forestry For each unit, material for presentation, identification charts, and suggested activities are included (HBC).

ED 071 917 Roller, Leb

SE 015,556

Using the School and Continunity. An Environ-mental Study Area. Teachers' Handbook. Nashville - Davidson County Metropolitan Public

Schoole, Tenn Pub Date-32 Note \$ 194p

EDR9 Price MF-\$0.65 HC-\$6.58

ade as for using the school site and the community as an environmental study area, this guide offers activities and suggestions to explore all aspects of the environment for many relationship to the environment are emphasized. The ultimate goal is vironment are emphasized. The ultimate goal is to develop citizens with a personal vense of involvement and an attitude that will guide their behavior towards the wise use of juli our resources. Part I discusses selecting a singlifier environmental study and surveying its educational vironmental study and surveying its educational possibilities. Part 2 outlines steps for getting up a possibilities and the state of language arts, social studies, science, math art and music are given r Several pages and ideas adapted from "All Around You, An Environmental Study Guide" (ED 064 131) are reprinted Part 4 deals with environmental problems air. water, noise, waste, and visual pollution, land use, population, and miscellaneous when problems Each topic provides buckground material for the teacher, activities for the classroom, and school site and community activities (BL)

SE 015\650 Learning to Live: A Manual of-Environmental

Education Activities.

Minnesota State Dept. of Natural Resources, St.

Paul. Bureau of Information and Education.

Pub Date [78]

Note=31p/ EDRS Price MF.\$0.65 HC-\$3.29

Descriptors—Ecology, Elementary Grades, "Environmental Education," Guides, Instructional Materials, "Learning Activities, Natural Resources, "Outdoor Education, Secondary

Contributions from a variety of sources are compiled in this manual to provide both students and teachers with environmental study activities Several activities are suggested under each of the following topies. Ecology and Esthetics (emphasizing awareness); The Decision-Making Process (resource management problems). A Plea for an Alternative (assessing the impact of snow-mobiles on the winter environment): Studying Gray Squirrel Habitat. A Deer Browse Story (indray addited Habiat. A beez boxe sowy did decating intreate plant. animal interrelationships. Snow Hydrology: Inspection of a Legging Project (how logging benefits the forest and wildlife). How to Build a Compost Pile (reducing the volume of solid waste). Environmental Action Activities (action projects), Nature Activities (to do on a hike or field trip); and Going Somewhete? (places to go and things to see outdoors) Appropriate charts, diagrams, and pre-tures are included (BL)

ED 080 344 SE 016 495 Teacher Resource Guide, Project ECO. Ames Public Schools, Iawa

Pub Date [73] Note = 193p

EDRS Price MF.\$0.65 HC.\$6.58

Desgriptore-Feology, Elementary Grades, Environmental Education "Field Studiet, Incluc-tional Materialt, "Lesson Plans, "Natural Resnutces, *Outdoor Educanon, Science Ac-tivities, Secondary Grades, * Feaching Guides More than 100 outdoor education and field science projects are compiled in this teacher's book Designed for use in grades K-9,

the activities cover the areas of field tasonomy, laboratory tasonomy, autocology, synecology, adaptation, economic biology, conservation. museum methods, culturing, 200 keeping, gardens of mes and wooderaft Each project designates the topic temmunity relationships. He forms: sugar authorising the forms suggested grade level, tocatity, getsisty or suggested gade level, tocatity, lettivity or public background negded, specific objective, and specific objective, to the specific objective of the specific objective of the specific objective, described objective of the specific objective objective objective of the specific objective objectiv Teacher responsibilities for preparing field trips and using facilities are also esplained and plogram fialuation questions are suggested (BL)

ED 081 607

SE 016 624

Roller, Elstabeth

Outdoor and Environmental Education Manual. Grades K-6.
Nashville Davidson County Metropoktan Public

Schools: Tenn.

Pub Date [73]

Note -- 100p EDRS Price MF-\$0.65 HC-\$3.29

Descriptors- Elementary Grades, Environmental Education, Fundamental Concepts, Instruc

Education, Fundamental Concepts, Instruc-tional Materials, Interdisciplinary Approach, "Leafning Activities, "Natural Resources, "Ourdoor Education, "Teaching Guides "In an effort to help elementary reachers see how the obt-of-doorsean be utilized in everyday teaching, this manual lists possible outdoor activi-ties that can be talkfuled in the school curricu-lum Introductory information defines objectives of outdoor education, suggestions for evaluation of outdoor education esperiences, and techniques for teaching in the out-of-doors. The activities section, divided by grade level (1-2, 3, 4, and 5special divided by grade level (12.2), 4, and 3.6), utilizes a conceptual approach within specific subject areas General Objectives are noted for each subject, succeeded by individual concepts and their supporting activities and follow-up Subpoets include science. language arts, mathematics, social studies, and arts/crafts/music at each level The final segment suggests health, physical education, and recreation activities appropriate for all grade levels. References are listed by section (BL)

ED 081 608

SE 016 625

Use That Campus.

Tennessee Valley Authority, Norris , Tenn Div of Forestry, Fisheries, and Wildlife Develop-

Pub Date 71

Note -- 1 6p.

EDRS Price MF-\$0.65 HC-\$3.29

Descriptors- Elementary Grades. Environmental Education, "Natural Resources, 'Outdoor Education. Resource Guides, School Location.
Site Development, Stodent Projects

The purpose of this publication is two fold to show how the natural features on campuses can be used effectively in environmental education and to plead for preservation of as much of the natural landscape as possible on new school sites Since opportunities for teaching about nature ate easily found on the grounds around a school, this bookles outlines briefly some of the ways teachers can make the most of this opportunity, and gives sources for additional material and assistance Campus and program development discusses the outdoor site, classroom preparations, and project ideas built around the history of conservation. plant life, animal life, nonliving elements of the environment, light, water, weather, temperature, soil, minerals, and fire. Trails, signs, ambhithcaters, ponds, weather stations, and models that can be built or developed at the outdoor learning facility are enumerated under teaching aids. The final section suggests additional projects which can be undertaken with little preparation necessary-leaf identification, snow study, unimal food habits, habitats, lifeplace construction, cooking, compass skills, insects, clouds, measure ment, growing plants, seeds, birds, trees, soil stu dy, moisture and fain gauget, pond life, food manufacturing, decomposition, climbing plants, and woodlands A bibliography is appended. (BL) RC 007 633

ED 087 576 Larson, Elston F Orienteering in Camping. Pub Date 1741 444. Note = 8p EDRS-Price MF \$0.65 HC \$3.29

EDRS Price MF-\$0.65 HC-\$3.29
Descriptors—Camping. Curriculum Guides.
Educational Games. Elementary School Curriculum, Instructional Materials. Instructional Rrograms. Mag. Skills. "Quidoor Education." Program Descriptions. Program Development Recreational Activities. Teacher Education Curriculum Visual Ads.

One-of the recent descriptions in camping is "orienteering" a program using a map, and compass Orienteering a program and used to point up the entire program, or it can be confined to a fifty gle simple game. The arrangement depends on the situation. The minimum age of the puricipants should be about 9 or 10. The ideal size group to instruct at one time of 20. The following group to instruct at one time is 20. The following program suggestions are based on an arrangement that has been used under a artiety of conditions divide program into 3 main parts.-(1) preliminary instruction to teach the simple use of a compass. (2) compass games, and (3) pointing up the general program-that is, a compass hike combining various outdoor skills into a unified adventure. There are no real limitations regarding the area to be used. A small back yard or even indoor rooms are usable Instructions are also given for how to teach the Silva Compass, how to mea. sure distance with a compass and how to organize a hike. (FF)

ED-092 388

SE 017 959

Reed, Ronald, Ed Resident-Outdoor Education, A Planning Guide. Ohin State Dept of Education, Columbus Pub Date 73

Note = 32p EDRS Pelce MF.\$0.75 HC.\$1.85

POSTAGE

Descriptors—Elementary Grades, Elementary School Science, "Environmental Education, "Guidelines "Guides, Instruction, "Outdoor Education, "Resource Materials

The focus of this booklet is on the mechanics

of organizing and operating resident outdoor education programs, the guidelines presented are written maints for elementum programs of one weeks duration. Topics exceed, include a philosophy fur outdoor educational esperience. laying the groundwork, choosing a site, time of sear, financing, resource people, might supervi-sion, transportation, and health, accidents, safety. and insurance. A bibliography of 127 references providing sources for ideas for educational activiues that can be conducted at a resident site is included along with sample forms to parent information sheet, equipment list, permission and health information forms, medical permission slips, evaluation forms and guides, and visitor a report) that might be used for a program (DTI

ED 094 912 RC 008 054 Environmental Education. Teacher's Handbook. Grade 5.

Nashville - Davidson County Metropolitan Public Schools, Tenn

Note = 153p EDRS Price MF-\$0.75 HC-\$7.80 POSTAGE

POSTAGE
Descriptors—American Indians, Conservation
Education, Ecutogy, Enrichment Activities,
"Environmental Education, "Grade 5, Natural
Resources," "Outdoor Education, Pullution,
Resource Materials, "Science Units, "Teaching

Prepared for use in the 5th grade, this teacher's handbook consists of 19 science units dealing with environmental education. Topics are ecology, language arts, rocks and fossits, soil, noise pollution. Nashville purieers and American Indians, conservation, waste and latter, water pollution, compass and mapping, plants and trees, use of the series, animal humes, air pollution, arts and crafts, insects, mathematics outdoors, plot study, the total environment of an area, and engineers gy Unit objective, time length concepts, vocabulary, activities, and a list of resurred materials are given for each (NOT)

RC 008 129 ED 096 085 Tracher's Guide to Fifth Grade Envisonmental Education. Upper Mississippi River ECO-Center, Thomson.

III.

Jons Agency—Bureau of Elementary and
Secondary Education (DHEW/OE). Washington, D.C. Div of Plans and Supplementary Centers Pub Date 74

Note-153p EDRS Price "POSTAGE. MF-\$0,75 HC-\$7.80 PLUS

PDSTAGE

Descriptors—Audiovisual Aids. Camping. Curriculum Development. Ecology. *Environmental Education.** Grade 3. *Interdisciplinary Approach: Natural Resources. 'Outdoor Education, Perceptual Development. Resduces Malerials, Science Units. *Teaching Guides Identifiers—Elementary and Secondars Education Act Title III. ESEA Title III. Illinois. *Urban Mississippi River ECO Center The Upper Mississippi River ECO Center The Upper Mississippi River ECO Center an exemplary Title III. Elementary and Secondary Education Act (ESEA) environmental education project serving the seven school districts of Car-Besduree _

project serving the seven school districts of Car-roll County. Illinois The Center has been involved in these aspects of environmental educarieulum development, referginge center development, resource development, and information dissemination. This handbook has been designed for use by fifth grade teachers in Carroll County and as an aid to other schools and leachers developing environmental education orugrams. The ac-man and the river, man and the elements, sewage treatment plants, school camping, school site activities, classroom, instruction, and additional

SE 018 217 ED 697 211 njoying the Environment. Environmental Education Carriculum.

resources (Author/NQ)

Topeka Public Schools, Kans Spons Agency—Buteau of Elementary and Secondary Education (DHEW/OE), Washington, D.C Pub Date Mar 74

Note-47p . Best copy available. Occasional-mar-

ginal legibility
The Price MF-80.75 HC-\$1.85 PLUS

POSTAGE:

Descriptors—Gamping, Curriculum Guides, "Environmental Education, Instructional Materials, "Intermediate Grades, Junior High Schools, "Leisure Time, Natural High Schools, "Leisure Time, Natural Resources, "Outdoor Education, "Recreational Activities, Recreational Programs

Identifiers - Elementary Secondary Education Act Title III, ESEA Title III Since an increasing number of people today are spending leisure time in the out-of-doors, there is to develop society's awareness and undestanding of the environment, develop outdoor skills, and stress factors in outdoor activity participation. This unit is designed to provide enough information and skill development to enable educable mentally retarded students at the thtermediate and junior high level to successfully participate in some of the Popular outdoor acuvi-Eight topies are included as follows boating. riflery (BB guns), fire building, fishing, archery. microscope activities focusing on nature studies, tenting and outdoor lab sessions. There is a suggested unit sime line for each topic with cul-minating work involving field experience Specific schedules are included in each topic area and ap-pendices provide relevant background informa-tion, diagrams and appropriate techniques. (MLB)

ED 100 639 SE 016 950

Hyland, Barb
Hyland, Barb
Chester Area Schools, S Dak Interlakes Environmental and Outdoor Education Program Pub Date [73]

–67p : Best Copy Available Price MF-50,75 HC-83,15 PLUS

POSTAGE Descriptors-Cornervation Education. Environ. ment, Environmental Education, Instructional Materials, Learning Activities, Natural Resources, "Outdoor Education, Science Education, Science Units. *Teaching Guides, Unit

Plan
The purpose of this collection of environmental education units, written by teachers and environmental educators as to develop in students a sense of wonders curiosity, and interest about the environment. The 26 interdisciplinary activity units are designed to be used as prefactivities or follow-up activities to other outdoor studies in the elementary grades. The booklet contains, a unit for each letter of the alphabet, such as, A-Ants, B-Buds, C-Compost, D-Dirt Each activity unit signifies the appropriate grade level, op-timal time of year for teaching the unit, the ob-jectives, needed materials, background informa-tion, pre-activity questions, the activity, and post activities. The units are for kindergarien through fourth grade, and are designed to utilize the out-of-doors. The activities in the unit include math activities, art activities, sensory awareness skill development, and language art activities. Predominant throughout the units is the emphasis on inquiry and discovery. (TK)

ED 123 055 SE 020 403

Reilly, Dentite
Correlated Englehment Environmentet Activities for the S.A.P.A. Curriquium Kits A through D. Del Mod System. Dever. Del Spons Agency—National Science Foundation. Washington, D.O.

Pub Date May 73 Grant-NSF-GW-6703

Note-139p.: Occasional Marginal Legibility Available from-Mr. John R. Reiher, State Supervisor of Science and Environmental Educa.

pervisor of Science and Environmental Education, Dept. of Public Instruction. John G
Townsend Building. Dover. Delaware, 1900.
(Free white supply lasts)

EDRS Price MF-80.83-HC-87-35 Pius Portuge
Descriptors—"Elementary School Science. Enrichment Activities. "Environmental Education.
"Instructional Materials, Learning Activities.
Outdoor Education. "Primary Grades. "Science
Activities."

Activities
Identifiers-Del Mod System, SAPA, Science A Process Approach

These environmental enrichment activities were written by teachers and consultants in workshops and institutes. The activities are appropriate for K-3 For each level the sequence of original activities including the new environmental activities ts listed. General objectives for the level are given. The enrichment activities list materials, objectives, trip procedures and questions, and audiovisual materials. The activities were developed for field work as part of outdoor education

ED 4 433 SE D21 719 Environmental Education Curriculum Guide · K. Geade 5. IAh-Yei. The Special Classroom En-

Bureau of Land Management (Dept of Interior).

Billings, Mont. Pub Date Mar 75

Pub Date mar //
Note-236p . Not available in hard copy due to
marginal legibility of original doc ment
EDRS Price MF-80.83 Plus Postage. HC Not

Available from EDRS.

Descriptors—Biology, Curriculum, Earth Science,
Ecology *Elementary Education, *Elementary School Science. "Environment, "Environmental Education Instructional Materials, "Outdoor

Education of eaching Guides
This is a curriculum guide for environmental
education designed for use in grades Kp5 While the guide is designed to be used in a Montana enthe guide is designed to be used in a Montana en-vironmental education study area, most activities can be used directive other locations, others can be adapted included are. (1) a discussion of ecological terms, (2) a list of vocabulary words. (3) activities, and (4) suggestions for instruction. Most in the activities are defailed with background information for the teacher. The sug-gestions for instruction include a number of check lists and other-practical suggestions for teachers (RH) ED 144 824 And Others 📉

Curtes, Hugh Instructional Guide for Outdoor Education: K.J. Watsau District Public Schools, Wausau,

Wasau District Public Schools, Wis.

"Whitsau District Public Schools, Wis.
Pub Date (70)
Note—(11p. For related document see SB-023
115; Not available in hard popy due to marginal legibility of original document
EDRS Price MF-\$0.83 Plus Postage, HC Not
Available from EDRS.
Descriptors—"Conservation Education. "Elementary School Science, "Environmental Education, Instructional Materials, Learning Activities," (Dilithort Education, Print of Education, Print of

ties, "Outdoor Education, Primary Education, Resources, Science Activities, Science Education, *Teaching Guides

This guidebook is designed to assist elementary grade teachers in following an oundoor education curriculum ileveloped in Waysair Wisconsin, though the activities are applicable to most areas The book contains outlines of materials and lessons to use and evaluate so that a final guidehouk can be produced that will be of the most use for teachers. This outdoor education approach en-courages observation and inturdisciplinary study The eurneulum stresses observation skills, social behavior, the environment, and the conservation of natural resources Field trips are encouraged or natural resources fried trips are ensuringed and a schedule of locations and their descriptions is included. Each lesson is divided into a number of components. The grade tevel, K-3, is given along with the objective, concept, and purpose of the lesson. The teacher is then given guidelines. for introducing, developing, extending, and fixing the concept. Where materials are required, they are listed, along with audio-visual materials that supplement the lesson (MA)

RC 010 657

Korporaal, Auc R., Ed Nature's Classroom, A. Guide for the Los Angeles County Outdoor School. Los Angetes County Superintendent of Schools.

Cabif. Repon No-LACO-75

Pub Date 75 Note-93p . Revised 1975

Descriptors - Activities. Concept Formation Conservation (Environment). *Curriculum.

Ecology, Educational Objectives. Elementary Education, Environmental Education Esperiential Learning, Guides, Lesson Plans Or. ganization. *Outdoor Education, Philosophy.
Policy, *Program Descriptions, Residentias Programs, Vocabulary Development
lentifiers—*Los Angetes County Outdoor

Identifiers—*Los School CA

Promoting understandings in outdoor science and conservation is the primary goal of the Los Angeles County Outdoor School as presented th Angeles County Outdoor School as presented in this guide to its five-day resident program for elementary school pupils. The purpose of various program components is briefly described, including hikes, cabin fiving, camprires, conservation projects, craits, dining half, evaluation and, planning, flag ceremony, folk dance and folk streams. singing, library and museum visits, and specialists. A sample daily schedule gives approximate times, for a typical day. The 1973-74 curriculum is out a lined under four major concepts (1) an ecosystem consists of natural communities of plants and animals interrelated and interacting with their physical environment, (2) man's at-titudes and way of life create an ecological impact on the environment, man a survival ucpends on his ability to minimire this impact, 13) the carrà is in constant motion producing regular predictable changes in the envilonment to which man adapts, (a) outdoor school is a minicommumity in which cach pupil can participate as a citizen and creative person. Under each, activities to accomplish objectives are given, with both outdoor sphool and classroom tearning opportunities. many of which provide for multicultural ex-petiences. The appendix has a glossary in both English and Spanish and site information on the uutdoor school (RSI

ED 157 766 SE 024 768 Bioinard, Lvan And Others Westside thatdoor Teacher's Gutde, Grades &-4. Florida State Dept of Education, Tallahamee, Office of Environment Education

. RC 011 199

Note - 64p. Not available in hard copy due to marginal legibility of original document Price MF-50 83 Plus Postage. HC Not

Available from FDRS.
Descriptors = "Elementary Education. *Instructional *Environmental . Education.

Materials, Interdisciplinary Approach, Language Aris, Mathematics, "Outdoor Education, Sciences, Social Mudics, "Reaching Guides This ittustrated guide anneludes activities in Creative Aris, Language Aris, Math. Science, and

Social Studies. Activities progrets from an animal thyme quit for lower grades, to projects for upper level students on soil teiting, felance humidity, and solar heat collection. The guide dents to appreciate the without, select than acinvities which promote "a conglomeration of facts
and figures for this and that " (Author/RH)

ED 160 282

Matthews. Bruce E. Oakes David B Old Time Apple Cide Nath Old Time Apple Cider Makin : An Outdoor Education Unit.

tion Unit.

Cortiand-Madison Board of Cooperative Educational Services Cortland N

Pub Date—Oct 76

Note—13p Not available in hard copy due to the extensive use of colored paper

ACatable from Cortland BOCES Outdoor-Environmental Ed Program McEudy Educational Center Cortland New York 130,45 (5) 00)

EDRS Price MF-50.83 Plus Postage. HC Not Available from EDRS.

Available from EDRS. Descriptors—"Activities. Descriptors—"Activities. "Cooking Instruction, Elementary Education. Food, Health Illustrations. "Interdisciplinary Approach Language Arts "Lesson Plans Nutrition Instruction "Outdoor Education, "Resource Materials Sciences. Social Studies."

Social Studies "
Identifiers—" Apple Cider, Making

An illustrated self-contained packet the resource materials contained in this guide are designed for adaptation to K-8. The resources and adeas presented here are designed to encourage utilization of the outdoors as a learning resource. While intrinsieally multidisciplinary, the activities are particularly adaptable to social studies, science and language arts. Activities and narratives included in this Buide are as follows a five Page history of apples accompanied by a chart indicating apple variety flavor and texture and usage (plo sauce etc.) pre-trip lesson suggestions aimed at science social studies math, health, and language arts activities, the lesson on making apple cider-timood setting, old time uses of apples, modern apple uses, types of apples and uses, storage, cider making beliefly, cider considerations, and wrap up), post trip follow up suggestions. a natrative on fruit sprays a narrative on the virgues of an apple a day. The Health and Nutrition Stary of Apples. Is apple recipes, a narrative on making apple eider, a guide to making dried apple faces and dolls, a cross-word puzzle, and special tips to the teacher re the mechanics of making eider (IC)

RC 010 781

Yaple, Charles And Others appe. Criques And Vibers
The Maple Products: An Outdoor Education Unit.
Cortland, Vadison Board of Cooperative Educational Services. Cortland. N 1
Pub Date + Feb 76

ote - 31p. Not available in-flard sup-point quality of original document yearlable from - Curtland-Madison Not available in-flard supy due to poor

BOCES Ouldoor-Environmental Ed. Program. McEvoy Educational Center. Cortland New York 13045

EDRS Price MF-\$0.83 Plus Postage, HC Not Available from EDRS.

Descriptors - Activities, "Cooking Instruction, Elementary Education, Field Trips, Health, History, Illustrations, *Interdisciplinary Approach, Language Arts, *Lesson Plans, Mathematics, *Outdoor Education, *Resource Materials. **Outdoor Education. *Resource Materials. Sciences. Vocabulary Development Identifiers - Maple Syrup Designed to take advantage of the apring season.

his resource packet on maple products centers upon a field lesson in harvesting and making maple syrop. The resources in this packet include a narrative on the origins of maple sugar, an illustrated description of old time inaple sugarin suggestions for pre-trip activities thistory of maple sugaring, science of maple sugaring, and a fact sheet on 😭 riip), the actual lesson plan on maPle syrup Tineludes tree identification, tapping the tree, colmaking sugar and using the syrup, boiling the syrup, making sugar and using the syrup in recipes suggestions for post-trip activities (includes lessons on language arts, strence and math, and health) a guesars of maple-related terms, a description of his to make a spile from sumac, an illustrated dewapium of how to identify maple trees, a narrative on the sugar maple as New York Sistak steet in-dividual nutratives with assumpanying exercises on the sugar maple, the red maple, and the silver maple. a maple tree crossword Puzzle, three pages of maple product recipes, and teacher tips on how to elimi-nate unforeseen problems. (JC)

RC 011 157 Whuney, Helen, Comp.

101 Environmental Education Activities. Bookiet 1-Art and Music Actisities.

Upper Mussissippi River ECO-Center, Thomson, Itt. Spons Agency-Bureau of Elementary and Secondary Education (DHEW/OE), Washington, D.C. Pob Date--- 75

Note-15p., Best copy available

Available from -- Upper Musiusippi River ECO-Center, Thomson, Illinois 61285 (\$1.00) EDRS Price MP-\$0.83 HC-\$1.67 Plus Postage.

Descriptors-Aesthetic Education, "Art Activities, Art Materials, Curriculum Enrichment, *Curriculum Guides, Educational Objectives, Educational Resources, "Elementary Education, "Environmental Education, Evaluation Criteria, Experiennal Learning, Instructional Materials, Intermediate Grades, "Music Activities, Musical Instruments, *Outdoor Education, Perception, Sensory Experience Identifiers—Elementary Secondary Education Act

Title III, "Upper Mississippi River ECO-Center First of a series of 6 Publications containing envicommental education activities, this booklet by the Upper Mississippi River ECO-Center describes 12 environmentally-based art and music activities for elementary and intermediate grades. Each activity description contains objectives, preparation, materials, directions, student evaluation, and variations where appropriate. Eight art projects teach basic art concepts, the artistic use of natural objects and throw-aways, materials combination, aesthetics, and texture awareness by means of the following outdoor onented activities, dired material arrangements, sand castings, sand paintings, tracings, observations of nature, drawing with natural objects, and but sculpture. The four music activities-music in the study of animals, music made from articles found in nature, original songs, and selections pertaining to outdoor activities and sounds-teach the uses and history of various instruments and an awareness of rhythm. (SB)

ED 165 973 RC 011 158 Whitney. Helen Comp.

101 Environmental Education Activities. Booklet 2-Language Art Activities.

Upper Musissippi River ECO-Center, Thomson, III. Spons Agency—Bureau of Elementary and Second-ary Education (DHEW/OE), Washington, D.C. Pub Date--75

Note-38p., Best copy available Available from-Upper Mississippi River ECO-

Center. Thomson, Illinois 61285 (\$1.90) EDRS Price MF-50.83 HC-52.06 Plus Portage. Descriptors- Activities, Curneulum Enrichment

*Curriculum Guides, Drama, Educational Objec tives. Educational Resources, *Elementary Education, "Environmental Education, Evaluation Criteria, Experiential Learning, Field Tops, Instructional Materials, Intermediate Grades, Language Aris, Language Idstruction, Language Skills, "Outdoor Education, Poetry, Sensory Experience. Vocabulary, Writing

Identifiers-Elementary Secondary Education Act Title III. *Upper MississiPpi River ECO Center This booklet containing 20 language arts activities is the second in the series "101 Environmental Education Activities" produced by the Upper Mississippi River ECO-Center The description of each activity contains learning objectives, directions, and suggested student evaluation standards. Elementary and intermediate level students expand their

vocabularies, learn new descriptive terms, practice spelling, and study poetry as they improve their powers of observation and their sensory awareness. The activities, based on environmental observation and the outdoor education Process, include studying modified and descriptive words, verbs, nouns, op-posites, and figures of speech, drama and poetry writing including haiku, writing and following direcubns, exploring outdoor sensations, studying plants and animals, and taking accurate field notes. The final project is a school fise study. (SB)

ED 167 311 Torbush, Lawson, Comp. . Winter Games.

Pub Date-73 Note-160.

Pub Type- Guides - Classroom - Teacher (052) EDRS Price MF-S0.83 HC-\$1.67 Plus Postage. Descriptors-*Alaska Natives, *Childrens Games, Cultural Awareness. Elementary Education, *Es-kimos. Experiential Learning, *Outdoor Educa-4 kimos. Experiential Learning. *Outd tion. *Play. *Recrestional Activities Identifiers—*Winter Games

Educators may find activities for andoor and outdoor winter programs in the games of the traditional Eskimo These games are dominated by few-step operations and low level structural organization For the most part they are quickly organized, begun-terminated, and ready to be recommensed. All types of games can be found, including quiet ones, individual stunis, cooperative games, and small and large group activity. In "Seal Racing," participants* he on their stomachs and race forward on their hands with legs itmp and body trailing "Arsaarartuq" features pulling contests where two participants lock wrists or fingers or elbows and pull. In "Holman Island Musk Ox Fighting" two young, boys go down on all fours, but their heads under the shoulder of the Person opposite. and try to uproote the opponent much the same as musk ox do when locking horns. Other animal-influenced activities include "Holman Island Forehead to Forehead Pushing" and the "Dog Team Pull" In the dog seam game, rope is tied around the waists of two opponents to serve as a hamess. They face tway from, each other, drop down one and and knees, and try to pull the Opponent over a line drawn between them Ball games include ice broomball, a number of football related activities, and a baseball-like game This guide tells how to play some 40 games suitable for a winter environment (DS)

ED 171 456 RC 011 368 Jones. Heather Bullock, Rodger The Sweet Taste of Spring: An Integrated Ap-

proach to a Springtime Phenomeno Forest Valley Outdoor Education Centre Willow-

date (Ontario) Spons Agency-North York Board of Education.
Willowdate (Ontario)

Pub Date-Jan 79

Note=53p. Not available in hard copy due to Pub-lisher's preference

Pub Type— Guides · Classroom · Teacher (052) EDRS Price · MF01 Plus Postage, PC Not Availage

ble from EDRS.
Descriptors—Art Activities "Elementary Educauon. "Experiential Learning Field Instruction. Field Trips, Health Education, Home Economies. InterdiseiPlinary Approach. Language Aris.
*Learning Activities, Mathematics Instruction,
*Ourdoor Education, Seience Instruction, Social Studies

Identifiers-"Maple Syrup

A visit to a maple sugar bush has become a tradi-tional springtime ritual for many school clastes in northern areas. The sensations and experienfrom this early springtime activity can be used for a number of study areas, including science mathematies, art, social studies, home economics language aris and health. This document provides learning activities for each of these areas that can grow out of students? study of maple sugar production A number of specific maple syrup-related activities are also included. Children may learn to identify the different species of trees, measure the circumferance of sugar maples to determine the number of holes to be duited for taps, and passici-pate in the actual tapping of a tree. They may also learn how to measure sap flow and record it on

charts for each trees with graphs they record the effects of factors influencing sap flow such as temperature, weather conditions, size and location of trees and heights of the tapholes from the ground Through the use of the Hydrometer method students learn to measure the sugar content of the sap A number of recipes for cookies, cakes, and other maple "goodies" are given and work with them would provide practice in the use of metric measurements. In addition to all types of learning activities, this book Provides teacher background information. in such areas as the historical background of maple sugar production and methods by which sap is colfected and syrup and sugar produced (DS)

ED 175 590 RC 011 396 Gilfillan, Warren C. Burgess, Robert A.
The Teacher's Handbook for the Outdoor School Multnomah Outdoor Education, Portland, Ore. -Aug 78

Note—43p.
Pub Type— Guides : Non-Classroom (055)
EDRS Price : MF01/PC02 Plus Postage.

-Coeducation, Educational Environ-Descriptors—Cocqueation, Educational Environ-ment, Educational Resources, Elementary Educa-tion, "Environmental Education, Equipment, Eaperiential Learning, Followup Studies, "Grade 6, Interdisciplinary Approach, L'arming Activi-ties, Lesson Plans. "Outdoor Education, "Resi-dent Camp Programs, School Policy, Staff Role, Student Behavior. "Teacher Orientation, "Teacher Role, Teacher Workshops, Teaching Procedures Procedures
Identifiers—*Mulmomah County Outdoor School

Active preparation, participation, and follow up of the Outdoor School, a week-long, resident, co-educational program of outdoor education for all Mulmomah County, Oregon, sixth grade classes and their teachers. Teacher orientation to the Outdoor School includes an on-site overnight workshop in which teachers train with specialists in the emphasized resource areas; water, soil, plants, and animals. Prior to the School, the teacher should prepare mais. Prior to the School, the teacher should prepare anudents and parents adequately using Outdoor School materials and integrating the School cur-riculum into all subject areas through the use of suggested learning activities. During the School the teacher should plan daily with the Resource Specialists and staff, available to instruct as much as the teacher desires, so that formal outdoor study experiences will be beneficial. The teacher must also help relate the School curriculum to that of the class-room and help maintain proper discipline and stu-dent conduct. After the School, the teacher should use suggested classroom follow up activities to co-ment the Outdoor School experience. This handbook describes staff roles and policies; daily learning sessions; school objectives; necessary equipment; and Procedures for administrative duties, armyal, departure, during, discipline, and ecremonies. (SB)

ED 175 591 RC 011 397 Gilfillan, Warren C., Comp. Burgess, Robert A.,

The Student's Handbook for the Outdoor School. Mulmomah Outdoor Education. Portland, Ore. ub Date-78

Pub Date—78
Note—36p.
Pub Type— Guides - Classroom - Learner (051)
EDRS Price - MF01/PC02 Plus Postage.
Descriptors—Elementary Education. Environmental Education. Experiential Learning, *Grade 6, Instructional Materials. Interdisciplinary Approach, Learning Activities. *Outdoor Education, Recreational Programs. *Resident Carrip Programs, *School Orientation, *School Policy. Student Behavior, *Student Responsibility, Student Role Rote

Identifiers- Multnomah County Outdoor School

OR, Student Handbooks
Directed to the Multnomah County, Oregon,
sixth grade students who participate in the Outdoor School program, the reusable handbook serves as an introduction to the week-long, resident outdoor education experience which focuses on four natural resources: soil, water, plants, and animal life. Each Week, four sixth grade classes from different schools participate in learning and living activities at the school sites, regular children's camps leased for the urpose. Housed in cabins under the aupervision of purpose. riouses in caonin states, students share high school aged Junior Counselors, students share work duries such as serving food, setting tables, hosting meals, cleaning facilities and grounds, carrying firewood, and forecasting weather. Each day.

students form small groups to concentrate on one resource area during two lengthy outdoor study sessions. They may participate in archery, bait casung, riflery, kinfe and are, hiking, or nature crafts during a daily recreation period. A quet time, class meeting, and campling complete the fully scheduled daily rontine. There is a heavy emphasis on behavior, especially at mealume. Complete procedures for registration, identification of possessions, arrival and departure, camp duties, ecremones, and health and safety are described. Directions for construc-tion of necessary camp equipment (tote bag, hobo stove, plant presses, insect collection boxes) are included. (SB)

ED 175 592 RC-011 398 Gilfillan, Warren C. And Others The Junior Counselor Handbook for Mulmomah County Outdoor School. Multnomah Outdoor Education, Portland, Ore. Pub Date-Dec 78 Note-280.

Pub Type— Guides · Non-Classroom (055)
EDRS Price - MF01/PC02 Plus Postage.
Descriptors— Camp Counselors, Counselor Role. Elementary Education, Environmental Educa-tion, Equipment, Experiential Learning, *Grade tion. Equipment, Experiential Learning, "Grade 6, "High School Students. "Outdoor Education. "Resident Camp Programs. School Policy, Student Behavior, Student Volunteers, Transportation, Vocabulary, Workshops

*Multnomah Identifiers—Junior Counselors. County Outdoor School OR, Student Handbooks Each week of the fall and the spring, 20 to 24 high school students volunteer as Junior Counselors at the Outdoor School which each year provides ap-proximately 7000 Multinomah County, Oregon. sixth grade students with an opportunity to live and study together at one of 5 leased resident camp sites. Recommended by their high school counselors, Junior Counselors are selected by the Outdoor School staff on the basis of their enthusiasm, responsibility, enjoyment of the outdoors, and desire and ability to work with younger students and staff. They must have passing grades and be able to miss a week of school. After a 2-day training workshop, each Junior Counselor is specifically responsible for the health and welfare of a cabin group of 8-10 sixth grade students during their week-long stay. The Junior Counselor also assists as instructor in one of four resource areas (soil, water, plants, animals). The handbook details: Outdoor School policies; insurance considerations administrative procedure; equipment list; transportation arrangements; daily schedule; and student behavior, standards, and work duties. For each resource area there is a glossary of important words and terms that the Junior Counselor is expected to know and use at the School (SB)

ED 175 593 RC 011 399 Gilfillan, Warren C., And Others Student Preparation Workbook for Outdoor School Attendance. Multnomah Outdoor Education, Portland, Orc. b Date-Dec 78 Pub Date—Dec 78

Note—62p.: Not available in hard copy due to extensive use of colored paper

Pub Type—Guldes - Classroom - Learner (051)

EDRS Price - MF01 Plus Postage. PC Not A saila-

ble from EDRS. ple from EDRO.

lescriptors—Botany. Ecology, Educational
Games, Elementary Education, *Environmental
Education, *Grade 6. *Interdisciplinary Ap-Descriptors proach. Land Use, "Learning Activities. "Natural Resources, "Outdoor Education, School Orienta-uon. Soil Genservation, Vocabulary Develop-

ment. Water Resources. Zoology
Identifiers— Multnomah County Outdoor School

Sixth grade students can prepare for the Multi-nomah County, Oregon, Outdoor School experi-ence by completing the workbook designed to provide fundamental information about soil, water, plant, and animal resources. The workbook begins with an introduction to environmental manners. after which a section is devoted to each resource area. The glossary of terms and words Provided for each area is the basis of many of the tearning activities which include charta, matching, drawing, labeling, completing atudy aheets, and games (bingo, erossword puzzles, word searches, word scrambica). The activities specifically address: the water cycles ersyfish; pH; dissolved oxygen; trees; tree meaturing; ecosystems; and land use planning. A Teacher's Guide accompanies the workbook. (SB)

ED 175 594 RC 011 400 Gilfillan, Warred C. And Others Teacher's Guide for Students Preparation Work-book for Outdoor-School Attendance. Multnamah Ontdoor Education, Portland, Ore, Pub Date-Dec 78 Note-64p., Not available in hard copy due to ex-

tensive use of colored paper Pub Type— Guides - Classroom - Teacher (052) EDRS Price - MF01 Plus Postage. PC Not Available from EDRS.

Games, Elementary Education, *Environmental Education, *Grade 6, *Interdisciplinary Approach, *Learning Activities, Lesson Plans, *Natural Resources, *Outdoor Education, School Descriptors-Bottany, Orientation, Soil Conservation, Water Resources, Zoology

Identifices-*Multnomah County Outdoor School OR

To be used by sixth grade teachers in preparing their classes for the Multnoman County. Oregon, Outdoor School Program, the guide to the Student Preparation Workbook provides general information, descriptions, game materials, and answers to exercises and puzzles. The guide is divided into four resource areas; soil, water, plants, and animals. Each section consists of introductory information, a glossary, and various learning activities and games. Although the material is not organized into complex lesson Plans, there are suggestions for use of the activities. Some general environmental material is included. (SB)

ED 176 918 RC 011 561 Kemp. Peter. Comp Nemmers. Larry, Comp Peacher's Guide to Outdoor Education Grades K-6. Eigin School District 46, Ill. Pub Date-71 Note-265p.

Pub Type—Guides - Classroom - Teacher (052) — Guides - Classroom - Learner (051) EDRS Price - MF01 Plus Postage, PC Not Availa-

ble from EDRS.

Descriptors—Art Activities, Curriculum Development, Educational Objectives, Elementary Education, Elementary School Mathematics, Elementary School Science, Environmental Education cation. * Experiential Learning. Health Education. Instructional Materials. Integrated Activities. Language Arts. *Learning Activities. Lesson Plans, Music Activities, "Natural Sciences, "Out-door Education, Physical Education, "Resident Camp Programs, Social Studies, "Units of Study This teacher's guide for planning the elementary outdoor education curriculum focuses primarily, though not exclusively, on activities for sixth graders who participate in a three-day resident program at Camp Edwards. Over 150 activation are organized under the subject areas of natural science, language , arts, social studies, mathematics, and music, ten topies under natural science include plant and animai study, geology, astronomy, winter survial, marshland ecology and water study, and contour map reading Subject matter areas are generally integrated into natural speece activities and greated as tools for study and reporting of experiences in the natural sciences. Each area of study contains-in addition to a wide variety of learning activities-a statement of major objectives, background information for the teacher, discovery questions for students, and activities to help assess the results of the camping experiences. Pre-camp, in-camp, and post-camp learning activities are described, many in detail. The mathematics section, for example, gives complete instructions for five methods of measuring, the height of a tree and complete plans for constructing a canometer, a trundle wheel, a sighting level, and a surveyor's level. An appendix contains student worksheets and a bibliography of 32 entries in outdoor education. (JH)

ED 176 911 RC 011 562 Haves, Jonathan Deem, Robert Resident Outdoor Education Program, Instructional Guide. Elgin School District 46, Ill. Pub Date—70

Note-128p, Revised in 1976 by Robert Deem Pub Type-Guides - Classroom - Teacher (052) EDRS Price - MF01 Ptus Postage, PC Not Asailable from EDRS.

Descriptors-Art Activities, Community Resources, *Concept Teaching, *Curriculum Deve-



topment. "Elementary Education. Elementary School Mathematics. Elementary School Science. Field Trips. Health Education "Integrated Activities, Integrated Curriculum. Language Arts. "Learning Activities, Music Artivities. Off Campus Facilities. "Outdoor Education. Parks, Perceptual Motor Learning. Physical Education, Social Development. Social Studies Identifiers—Illinois (Elgin)

An extension like of outdoor education acrossors.

An extensive list of outdoor education activities that can be integrated into the manipulan cur-neulum is presented in this goide. Activities are arranged by grade (from kindergarten intough sixth) and by subject areas taugh: at each grade level. Subjects covered in grades 1-0 are seience. social studies, language aria, mathematics, art. musocial studies, language aria, mathematics, art music, health and physical education eurodefacten subjects include motor development, sensor) development, and social and emoticinal growth. Each subject area is divided upto on a and units into concepts, with various outdoor consecution activities suggested for developing cava concept. Second grade science for example, "covers the concepts." Plants are different in many ways." "Plants need sum, water, and good soil to live and grow," and "Plants are used in many ways." Outdoor education setuities has difficult these concepts capital school education activities has difficult these concepts capital school activities listed under these concepts include school site observation of differences in plants, growing seeds under varying conditions, visiting a green-house, and making chargoal to use for drawing. Many activities can be earned out in the classroom or on the school site; others use the community and resource facilities beyond the community. The appendices commin a bibliography of 16 utiles, detailed pentitive contain a south of reduce unual resource facilities in the Eigin area, a list of area resource people, and maps of 15 nearby parks. (JH)

RC 011 546

Harris Jean, Comp And Others Outdoor Education-Fifth Grade.

Outdoor Education—Fifth Grade.
Diaon Public Schools, N.J.
Pub Date—77
Note—1139. Contains some light print
Pub Type—Guides. Classipom. Learner (051) —
Guides. Classipom. Learner (051) —
Guides. Classipom. Telling Postage.
Descriptors—Art Aemonics, "Curriculum Desclopment, Elementary School Mathematics, Elementary School Science. "Environmental Education,
Experiential Learning, Grade 5. "Intermediate
Grades, Language Arts, "Learning Activities,
Lesson Plans, "Outdoor Education, Social Studies
Units, "Units of Study
Identifier—"Dixon Public Schools IL
Learning activities, lesson plans, and various re-

Learning activities, lesson plans, and various resurce materials are contained in this guide for the fifth grade outdoor education program in the Dixon Public Schools, Dixon, Illinois, Well over 100 activities are suggested, and many of these are described in detail. Although some information is specific to the Dixon program, which has access to a large eamp with wilderness areas, most activities can be adapted to any outdoor environment. Activities for the classroom and the outdoors are organseed under the following subject areas mathematics, social studies, language arts, natural sciences, reading, and the arts, winter outdoor activities are also listed. The section on the natural sciences lists 22 activities including study of local geology, exploration of streams and ponds, and observation and prediction of weather. In addition to lesson plans, student worksheets, and quizzes a wide variety of background information is provided on plant and snimal identification, regional geological history ineluding glaciation, and rock and fossil identification. Math activities use the environment to learn measuring and estimating distances, quantities, and velocity; both metric and standard units are used, and charts and other information for metric conversion are included. (JH)

ED 178 232 RC 011 547 Densmore, Tom. Comp. And Others
Sixth Grade Outdoor Education Program. Outdoor

Curriculum Guide. Dixon Public Schools, N.J.

Pub Date—78
Note—195p. Contains some light print
Pub Type— Guidef - Classroom - Teacher (052)
EDRS Price - MF0L/PC08 Plus Postage.

Descriptors—Art Activities, Curriculum Development, *Environmental Education, *Experiential Learning, Grade 6, *Group Activities, Group Relations, Instructional Materials, Intermediate

Grades, *Learning Activities, *Quidoor Educatron. Problem Solving, "Recreational Activities. Resident Camp Programs. Resource Materials. Safety. Socialization. Units of Study

Identifiers- Dixon Public Schools IL

Compiled for teachers whose sixth Brade stildents Participate in the tesident camping program of the Dixon Public Schools (Dixon, litinois), this guide offers extensive and detailed information for use in Planning the camp curriculum. Achymes are suggested for environmental study, group socialization, and recreation. Environmental study units include onenteering, weather study, identification of plants and animals, geology, and astronomy. Background information is included for each unit along with sug-gested activities, instructions, and lists of materials needed. The geology section, for example, provides information on regional geological history, illustra-tions of fossils commonly found in the area, and procedures for conducting soil study and gully study units. Socialization activities require group problem solving efforts and facilitate the sharing of expenences. Regression covers the evening earnplife from fire building to songs and skits, art Projects Using natural materials. 15 types of hikes that develop awareness of natural surroundings, and outdoor cooking including menus and 80 recipes for outdoor meals. The guide lists safety and emergency processures specific to the program as well as first aid. measures for common camping injunes. (JH)

ED 180 811 SE 029 540 ED 100 811
Ecology Enrichment, Grades 1-6.
Rocky River Public Schools. Ohio.
Spons Agency—Office of Education (DHEW).
Washington, D.C.: Ohio State Dept. of Education. Columbus. Div of Research, Planning, and

Evaluation.
Pub Date—[77] 1
Note—170p: For related document, see SE 029

541
Pub Type— Guides - Classroom - Learner (051) —
Guides - Classroom - Teacher (052)
EDRS Price - MF01/PC07 Plus Postage.

Descriptors—Conservation Education. Ecology.

*Elementary Education. Environment. *Environmental Education. Field Trips. Natural Resources, *Outdoor Education. Process Education.

*Science Activities. *Science Education

This collection of eurneutum maierials is arranged by grade level for each elementary grade. Materials are recommended for use in conjunction with trained volunteer instructors and with access to an outdoor education center, a park, or a wooded area near the school. Level K-3 emphasizes basic observational and process skills, while levels 4-6 empha-size process also, but are not as directive as for grade levels K-3. Activities at all levels include a rationale statement, an instructional objective a protest, a fist of vocabulary words (when appropriate), back-Bround information, ansuructional procedure, and specifie, activities. (RE)

ED 180 812 SE 029 541

Losen, Bud Swart Lindo

Ecologo Edrichment, Grades 7-8.

Rocky River Public Schools, Ohio

Spons Agency—Office of Education (DHEW),

Washington, D.C., Ohio State Dept. of Education. Columbus Div of Research. Planning, and Evaluation. Pub Date-[77]

Note-120p.: For telated document, see SE 029

Pub Type- Guides - Classroom - Learner (051) -

Pub Type—Guides - Classroom - Learner (051) —
Guides - Classroom - Teacher (052)
EDRS Price - MF01/PC05 Plus Postage.
Descriptors—Biology. Conservation Education.
Ecology. Environment. *Environmental Education. Field Tips. Junior High School Students.
Natural Resources. *Outdoor Education.
*Science Activities. *Science Education. Second-

ary Education
The curriculum materials in this manual are deaigned to support life science programs at levels seven and eight, and nine and ien, when appropriate. Field activities are focused upon and can be completed with the supervision of teachers, an older student. Or an adult volunteer. Each activity contains background information, data pages, and/or discussion questions. The manual is divided into two sections. (1) investigations of the aquatic environrient, and (2) the tertestrial environment. (AuED 180 832

SE 029 821

Lirson, Robert J. Elementary Environmental Activities.

aramie County School Distric: 1, Cheyenne, Wyo.

Pub Date—May 75
Note—268p.
Pub Type— Ginder - Classroom - Teacher (652)
EDRS Price - MF01/PC11 Plus Postage.

Descriptors—Air Pollution Control. Class Acumines. Earth Science. Ecology, "Elementary Education. Environmental Education." Field Trips. Land Use. "Outdoor Education. Pollution. Science Education, Waste Disposat, Wa-

This Ruide Otesents suggestions for field unps. outof-doors activities, material for centers, and individualized activities in the teaching of elementary school science and particularly environmental edu-cation at the elementary level. The guide includes a scellion on preparation and procedures for conducting field trips, meluding sample administrative forms and permission saps. A section on environmental act...ties presents class activities deating with the environment. A third section presents activities to be undertaken out-of-doors. A three-part sample environmental education test is provided. (RE)

ED 182 113 A Learning/Teaching Experience in Ecology for Sesenth Year Students at the Bossier Parish Nature Study Center.

Bossier Parish Nature Study Center, Benton, La. Pub Date-Aug 78

Note—36p: For related document see SE 029 528 Pub Type— Guides - Classeoom - Teacher (052)

EDRS Price - MF01/PC02 Plus Postage.
Descriptors—*Ecology. *Environmental Education. *Grade 7. *Instructional Materials. Learning Activities, *Nature Centers, Outdoor Education Science Education, *Secondary Education

Presented in this guide are fearning activities and related materials to assist teachers in Preparing Seventh-grade students for a visit to a nature study center. Activities are suggested for individuals. small and large groups, and are classified according to whether the activity is to be completed before "e visit, during the visit, or as a follow-up activity. A pre- and post-test and a list of expected standards of conduct and safety for students are included. The publication is designed for a specific site, but could be Edapted to other sites (BT)

SE 029 528 A Learning Teaching Experience in Ecology for Fifth Year Students at the Bossier Parish Nature Study Center.

New York Univ . Brong Dept of Mechanical Engincering

Pub Date-Aug 78

Note-79p , For related document, see SE 029 527. Contains occasional light and broken type
Pub T) pe... Guides - Classtoom - Teacher (052) or
EDRS Price - MF01/PC04 Plus Postage.
Descriptors—"Ecology, "Elementan Education,
"Enstronmental Education, "Grade 5, "Instructional Materials, Learning Activities "Nature Centers, Outdoor Education Science Education

Presented in this guide are learning activities and related materials to assist teachers in preparing fifthgrade students for a visit to a nature study earter. Activities are classified as to whether they are to be used before visiting the center, while at the center or as culminating activities upon returning to the classroom. A pre- and posttest and a list of expected standards of conduct and satety for students are included. Materials for making transparencies, outosheets, and booklets are found in the supplement. Though this publication is designed for a specific site, it could be adapted for other sites. (BT)

ED 186 246 SE 030 598 ED 186 246 SE 0.30 598
A Guide for the Keakealani Outdoor Education
Center: A Camp Program.
Hawan State Dept of Education. Honolutu.
Report No —TAC-76-1105
Pub Date—11p. Not available in hard copy due to copyright restrictions.
Pub Type—Guides - Classroom - Teacher (052) —
Guides - Non-Classroom (055)



EDRS Price - MIF01 Plus Postage, PC Not Available from EDRS.

Descriptors—Camping, Class Activities, *Conservation Education, *Curriculum Development, Ecology, Elementar) Education, Environment. *Environmental Education, Field Tings, *Instituc-tional Materials, Interdisciplinary Approach, Natural Resources, *Nature Centers, *Outdoor Education

This golde is intended to assist teachers in incor-Porating the resources of an outdoor education eenter into their existing curncula. The goide describes the camp program and Presents the major gotis and objectives of the eamp expenence Instructional scheme and topical areas are described. Proceduses for implementation of the program are explained. week's schedule of activities is outlined. Example lessons are suggested in the guide. The guide can serve as an example for others developing similar programs. (Author/RE)

ED 188 868

SE 030 898

wanson. Richard L.

Stepping Outdoors, Teacher's Guide, Part I: Natural and Social Sciences for Understanding Our

Cat forms State Dept of Parks and Recreation, Sacfarrento

Pub Date-Mar 80

Note-66p For related documents, are SE 030 894-897

Pub Type— Guides / Classroom - Learner (051) —

Guides - Classroom - Teacher (052)
EDRS Price - NFOI PC03 Plus Postage.
Descriptors—"Class Activities Conservation Education Ecology Elementary Education Environment "Environmental Education "Field Trips. *Interdisciplinary Approach, Natural Resources, *Outdoor Education Planning *Science Education, Social Studies

This guide is designed to be used in either of two ways (1) as a complete interdisciplinary science unit particularly assent in California; and (2) in combination with other documents, as a preparatory guide for field trips. The guide contains planning and teaching concepts seneralizeable to most areas Included are (1) an introduction, (2) prosting lessons. (3) a field trip. (4) tests and evaluation, and (5) related information and references (RE)

SE 032 955 ED 193 054

Conservation Awareness Guide. Santa Rosa County Board of Public Instruction. Milton, Fla

Spons Agency—Florida State Dept. of Education, Tallahassee Office of Environment Education, Pub Date—?7

Note-54p Pub Type- Guides - Classroom - Teacher (052)

Pub Type— Quides - Classroom - Teacher (052)
EDRS Price - MF01/PC03 Plus Poatage.
Descriptors— "Conservation (Environment). "Conservation Education Elementary Education.
"Elementary School Corriculum. "Ecergy. Environmental. Education." "Natural Resources. Resource Makerials. Science Education. "Science Instruction

Recommendations for the or porating conversation education into the K-5 curriculum comprise this teacher's guide. Evamined are eight natural resources air energy forests and plant life human resources minerais soil water and wildlife. Each of these topical is considered in two ways. (3) a chart depiets concepts basic to understanding the fesource, and (2) a second chart lists related class-room activities. Both concepts and activities are indicated by grade level. Emenasized are local re-sources and concerns IWBs

SE 032 956

Adams Diane And Others
Environmental Education Curriculum,
SPOns Agency—Florida State Dept of Education
Tallahassee Office of Environment Education Pub Date-Jun ?

Pub Date—Jun 77

Note—99p Contains occasional light and broken type Guide prepared at the Gren Springs Etementary School Galmessi, & FL

Pub Type— Guides Closs risom - Teacher 10521

EDRS Price - MFOI. PC04 Plus Postage.

Dekriptors—Biological Science Busant Elementary Education "Elementary School Curriculum, "Environmental Education "Outdoor Education, Resporce Materials Science Education "Science Instruction," "Soil Science, Wildlife Identifiers—"School Yards Identifiers - "School Yards

Described is a K-5 cutrivulum developed by

teachers for use in conjunction with an outdoor learning site adjacent to their whood. Neutriculum matrix depicts the sequence of organisms, habitats. and constrainter stick that station to a cach grade ever should study. Also included is eachground information about the site for teachers. Organized by grades, each lesson Plan includes objectives, a materials list, suggestions for student evaluation. and a brief outline of the activity. Among the learning strategies described are art projects, habitat studies, playa, and plant and animal identification (W'B)

ED 195 389

SE 031 474

Warren, Mark Viaste From the Woods, A Teacher's Handbook for Entronmental Education.

Georgia Conservancy- Atlanta

Note—60p. As allable from—Barbara Smith. Program Director. As alable from—Barbara Smith. Program Director.
Georgia Conservancy, 3110 Maple Drise, N.E.,
Atlanta, GA 30305 (52.95).
Pub Type—Guides—Classroom—Teacher (052)
EDRS Price—MF01/P03 Plus Postage.
Descriptors—Biological Sciences, "Conservation
Education, "Ecology, Elementary Education,
"Environmental Education, "Learning Activities."

*Outdoor Education, Sciences, Sensory Training Identifiers—*Forests

This workbook contains suggestions for environmental learning adventures for elementary school children in a forest. The activities are classified under various concepts such as sound, growth, adapta-tion, force, variety, water habitat, design time, and conservation. The concept is first defined. Then a preparation exercise to get the students actively in-voiced in the subject is presented. This may be a conversation about familiar things or an inside preparation game. Under the concept heading, the handbook provides a series of games, exercises, and explorations designed to let the child experience that concept. (SB)

ED 196 577

RC 011 858

Banks Dorothy E Outdoors-Nature's Learning Center. A Guide for implementing an Outdoor Laboratory School Program

District of Columbia Public Schools, Washington, Spons Agency - National Park Service (Dept. of In-

terior) Washington, D.C. Office of Education (DHEW): Washington, D.C.

Pub Date-Jan 76 Note-33p.

Note—33p.

Pub Type— Guidea - General (050)

EDRS Price - MF01/PC02 Plua Postage.

Deseripiors—Camping. "Environmental Education. "Experiential Learning." Grade 6. Interdisciplinary Approach. Intermediate Grades, "Minority Group Children. "Outdoor Education. Program Content. Pr. gram Desemptions. Resident Camp Programs. Science Education. "Urban Education."

Identifiers—"District of Columbia, Round Meadow Outdoor Learning Laboratory School MD

The Round Meadow Environmental Laboratory School is an exemplar) Project designed to aid District of Columbia oth Brade entidien in overcoming the educational disadsantages of urban minority group isolation, both cultural and geographical through a school-based and camp-based interractal and intercultural environmental awareness pro-gram During the course of a five-day resident eamp experience at the Catoctin Mountain Park aite in experience at the Catorin Mountain Park and in western Maryland, each Mudent Participates in approximately 18 hours of both trail and classroom academic interatigation of four predominant aspects of the environment woodland ecology, attemn ceology, geology, and customs, tradmons and cul-ture of early settlers. The achool-based phase con-aists of pitemane pre- and post-aite educational experiences through an interdisciplinary approach to environmental education. This guide presenta a histors of the program, project management goals and objectives, atudent performance goals and objectives, a description of camp trails and activities: questions and answers social the design of the program, its staff, and activities, a sample weekly eamp schedule, and Pre- and posi-outdoor school questionnaires used to chait student capeciations and responses to the outdoor school expenence. (NEC)

RC 012 863 , ED 205 346 Boules, Allen, Ed. Outdoor Education: Issues & Investigations, 5-8. Okishoma State Dept. of Education, Oklahoma City

Pub Date

Pub Type—Guides - Classroom - Teacher (052)
EDRS Price - MF01. PC11 Plus Postage.
Descriptors—Educational Games. Elementary

Elementary Education. Energy: "Environmental Education. Geology. "Instructional Materials. "Learning Ac-usities. Natural Resources. "Ooservational Learning, Outdoor Activities. "Outdoor Education. Program Evaluation. Recreational Activitics. Recreational Facilities. "Resource Units. .
Vocabulary Development, Water Resources Identifiers—"Oklahome
Designed to familiarize Oklahoma attudents with

their environment by Providing opportunities for exploration, investigation, and evaluation, this outdoor education guide contains suggested services to be used as a starting point to arouse the interest and curiosity of students through direct observation and investigation. As an additional teaching aid, science-felated words which may be new to a student's vocabulary have been underscored and are followed by a guide to pronunctation. Chapter 1 describes the geology and natural history of Oklanoma. Chapter 2 discusses Okiahoma a water re-sources. Chapter 3 identifies the state's recreational facilities. Chapter 4 discusses ettergy consumption and conservation. Chapter 5 describes various aspects of environmental health. The activity sections of each chapter mate the concept to be taugut, the purpose of teaching the concept instructional materials to be used, teaching procedure, and questions to consider. Appendixes include a glossary of scientific words, teacher aids, an annotated list of flums and filmstrips, a list of references and resources, and an evaluation sheet to be completed by teachers. (CM)

ED 206 418 RC 011 553 Sandburg Environmental Education Student Handbook.

Freeport School District 145, Ill.

Pub Date—[76] Note—17p: For a related document, see RC 011

Pub Type- Guides - Classroom - Learner (051) EDRS Price - MF01/PC01 Plus Portage. Descriptors-Art Activines, "Corneulum Development, Curnoulum Enrichment. Elementary Edu-

canon, Elementary School Curriculum, Elementary School Mathematics, Environmental Education, "Instructional Materials, Integrated Curneulum. *Interdisciplinary Approach, Larguage Arts. Learning Activities. *Outdoor Activities. *Outdoor Education. Science Activi-ties. Social Studies. Teacher Developed Materials Lesson Plana for 21 activities in environmental atudies are included in this student handbook, a companion to the Sandburg Environmental Education (SEE) program teacher handbook. The program emphasizes the integration of environmental studies in the existing curriculum, accordingly, the handbook provides five lesson's with environmental emphasia for art, four for social studies, one on litter analysis, five for math, four for language arts, and two for science. Plans include objectives of the setivity, materials needed instructions (to atudent and or teacher) worksheets for some activities, and es aiuation suggestiona for some. Most achvittes are earned out on Or near the school site, with follow-up activities in the classroom. Many activities are interdisciplinary in nature; a social studies activity, for example, titled "Seeds A Chain of Life" includes collecting, categorizing measuring, and drawing seeds as well as descriptive and narrative writing about seeds. Math activities include estimating distances in attandard and metine units and using & com-Pass to map small arezs. Language arts activities focus on exceful observation and description of the environment. Suggested science activities are atudy of plant auccession and estimation of insect populations (JH)

RC 011 554 ED 206 419 Sandburg Environmental Education Teacher Handbook. Freeport School District 145, III

Pub Date-[76] Note-67p.: For a related document, see RC 011

Pub Type— Guides · Classroom · Teacher (052) EDRS Price · MF01/PC03 Plus Postage.

Descriptors-Art Activities, Conservation Education, Curriculum Development. "Curriculum Enrichment, Elementary Education, Elementary School Mathematics. Environmental Education. Field Tops. "Instructional Materials Enterstein Curriculum, Language Arts, "Learning Activities, "Outdoor Activities, "Outdoor Education, Science Activities, Social Studies, "Teacher *Teacher Developed Materials

Learning activities, teaching materials, and lesson plans are contained in this guide, developed by six teachers at the Carl Sanaburg Middle behool in Freeport, Illinois; it suggests ways to integrate envi-ronmental study into the existing curnetium for artscience. English, mathematics, and social studies Activities for elassroom learning and school site esploration are organized-by subject area, with the science, mathematics and social studies sections including lists of environmental concepts currently taught. The art section provides a list of supplies. scrap materials and tools and suggests over 50 projects in a variety of media ... luding drawing, painting, sculpture, and collage. The science section includes materials for teaching 45 environmental study vocabulary words and suggestions for using the school site and neighborhood to learn about weathering and crosion and plant and animal identification. Mathematics activities include calculating costs of various types of pollution, encesing home energy usage, and estimating heights of trees nome energy usage, and estimating neights of trees and buildings Suggestions for book reports, creative writing, and sociability skills are covered in the English section. The social studies section provides student worksheets for exploration and observation of the school site of films, filmstrios, and books available for the Sandburg Environmental Education program is appended. (JH)

ED 206 420

RC 011 920

FitzSimmons, Michael Outdoor Human Relations Program, 1979-80: Fifth Grade [And] Teacher's Guide. Mansfield School District. Ohio.

Pub Date-80

Note-53p. Available from—Mansfield City Schools, 53 West Fourth St., Bos 1448, Mansfield, OH 44902 (free; 2 or more copies, \$1,00 ca.)

Pub Type- Guides · Ciasstoom · Learner (051) -Guides - Classroom - Teacher (052)

EDRS Price - MF01/PC03 Plus Postage Descriptor—Art Activities, Berassoral Objectives,
"Day Camp Programs "Environmental Education, Esperiential Learning "Field Trips, Grade
5, Group Activities, "Hu nan Relations, Intermediate Grades, "Learnin"; Activities, Learning-Modules, Outdoor Activities, "Outdoor Educa-tion, Recreational Activities, Science Activities

Identifiers-Ohio Prepared for an outdoor education program that features day trips to a rural camp in Ohio, this guide attesses environmental education and interpersonal skills. Written for grade five the guide contains 2 student handbook for eamn 2 twitter followed by 2 brief section for teachers. The infreductory section of the student handbook states the program goals and provides a camp map, the schedule and tules. and brief descriptions of iocal Indian indes. The remainder of the student section provides background information and instructions for 15 outdoor activities including bird watabing, canocing, using a compass, outdoor vooking, group problem solving. Dond life study, a copes course cross country sking. and nature study. The poind lite unit includes a simple explanation of pond evology, drawings to aid in identifying plant and animal life, and a page for student notes and sketches. It istrations, diagrams, and worksheets are provided for each activity. The teacher's portion of the guide states the classicom. teacher's responsibilities in the outdoor Program. lists films and games that can be used to prepare for and follow-up samp activities, and provide reaching aumestions and behavioral objectives for two camp activities: pond life study and birthwatching (JH)

ED 206 421 Simmons Michael RC 011 921

Outdoor Human Relations Program, 1979-80: Sixtà Grade [And] Teacher's Guide. Mansfield School District, Ohio. Pub Date-80

Note-61p.

Note-61p.

Available from-Mausfield City Schools, 53 West Fourth St., Box 1 s.48. Mansfield, OH s4902 (free: 2 or more copies, 51 00 ca.).

Pub Type-Guides - Classroom - Learner (051) - Guides - Classroom - Teacher (052) EDRS Price - NIF01/PC03 Plus Postage.

Descriptors-Art Activities Behavioral Objectives.

*Day Camp Programs. *Environmental Education, Expenential Learning. *Field Teach Grade

Expenential Learning, "Field Tops, Grade 6, Group Activities, "Human Relations, Inter-mediate Grades, "Learning Activities, Learning Modules, Outdoor Activities, "Outdoor Education. Recreational Activities. Science Activities Identifiers -Ohio

Environmental education and interpersonal skills are stressed in this guide for an ourdoor education program that features day trips to a rural camp in Ohio. Written for grade six, the guide contains a student handbook for camp activities followed by a binef section for, teachers. The student handbook begins with the program goals, a map of the eamp. the schedule and ruses, and brief descriptions of loeal Indian tribes. The remainder of the student seecomains background information instructions for 18 outdoor activities including anibirdwatching, building a camp shelter, cancering, compass orienteering, outdoor cooking, flature walks, rock identification, cross country skiing. trapping, weather forecasting, and a ropes course. Illustrations, diagrams, and worksheets are provided with each activity. The teacher's portion of the guide states the classroom teacher's responsibilities in the outdoor program, lists films and games, to supplement the eamp program, and provides teaching suggestions for three outdoor scrivicies weather study, an art project using natural Pigments, and bird watching Behavioral objetitives are included for each activity along with lists of equipment and supplies and suggestions for preparatory and follow-up work in the elassroom. (JH)

ED 209 061 RC 013 027 Sklar, Norman La Mantio, Laura Activity Approach to Just Beyond the Clastroom, Emmonmental Education Series, Nassau County Board of Cooperative Educational

Scrices. Westbury, N.Y.
Pub Date—[74]
Note—61p.: For a related document, see RC 013

028.
Pub Type—Guides - Classroom - Teacher (052)
EDRS Price - MF01/PC03 Plus Postage.
Descriptors—Angesals. Boseny, "Discovery Learn-

ing, Ecology, Elementary Education, "Environ mental Education. "Experiential Learning, Field mental Education. "Experiential Learning, Field Studies, Geology, Interdisciplinary Approach, Learning Acustites, Lesson Plans, Mathematical Enrichment, "Outdoor Activities, "Outdoor Edu-cation, Physical Environment, "Playground Activites

To provide teachers with some of the many activi-ties that can be carried on "just beyond the class-room," the booklet presents plans for more than 40 outdoor education activities, all emphasizing multidisciplinary, inquiry approach to learning. The school grounds offer optimum conditions for initiating studies in the out-of-doors. While every school day of the year should be favorable for some activity, the amount of time spent in the out-of-doors is determined by the particular activity chosen and the individual needs and situations of the student. Students are encouraged to use all of their senses and observe carefully in order to arrive at conclusions. The teacher's role is to direct this inquiry, finding the "teachable moment," The multidisciplinary approach to learning incorporates many academic subjects mathematics, science, social studies, art, ecology. English, etc. Plans for each activity include a description, list of required materials, atep-by-step procedures, discussion topics, and addi-nonal follow-up activities. Suggested activities range from sensory nature scrolls, seavenger hunts, animal tracks, sand study, earthworms, and root ecology to caploring a sidewalk wilderness, rainfall measurement, curb weed and seed study, bark rub-bings, bud watching, shadow study, and air pollution testing, (NEC)

ED 219 286 SE 038 798

Green, Dan And Others
The School Ground Classroom: A Curriculum to
Teach K-6 Subjects Outdoors, First Edition,

Environmental Education Association of Oregon, Portland.

Pub Date-80 -66p.

Available from -Environmental Education sociation of Oregon, P.O. Box 40047, Portland, OR 97240.

Pub Type- Guides - Classroom - Teacher (052) EDRS Price - MF01 Plus Postage, PC Not Availa-Me from EDRS.

Descriptors-Art Activities, Elementary Education, Elementary School Mathematics, Elementon, Elementary School Mathematics, Elementary School Science, "Environmental Education, Health Activities, "Interdisciplinary Approach, Language Arts, "Learning Activities, Music Activities, "Outdoor Activities, "Outdoor Educations," Outdoor Educations, "Outdoor Educations," tion, School Location. Science Activities, Social Studies, Teaching Guides, Teaching Methods -Suggesting that outdoor activities can be positive learning capenences, lesson plans and activines were designed to demonstrate that the outdoors is an interdisciplinary classroom, to be used on virto ally any school site, and to teach subject matter taught as part of the standard curriculum. Seventeen interdisciplinary ideas with correlated activities for language arts, social studies, science, health, mathematies, art, and music are provided. Subjects of these ideas focus on insects, ahadows, bail park, eurbs, birds, parking lot, asphalt, leaves, flagpole, playground, open area, wind vanes, natural area, weedy area, grassy area, telephone poll, and trees. Twenty-cight lesson plans are also provided. Each tesson plan includes ntle, subject area, grade level, goals, skills fostered, purpose, performance indicators, materials/resources, instructional strategies, and references. Titles include the five senses, dif-ferences/similarities, trees, outdoor sets and counting, cloud shapes, litter critters, aunlight/shadows, outdoor shapes, how does it feel, mapping, cracks, hop/skip/jump, riddle-diddle, vehicle adventure, what happens to leaves, cinquain, latter recycling, dichotomous key, fraction fun hunt, echoisms, natural resources, air mail balloons, pacing game, verse-three ways, temperature of school wall, and measuring a shadow. (JN).



Middle/Secondary

ED 044 295 SE 010 040 Conservation Science Fair Penjects. Soil Conservation Society of America, Ankeny,

Pub Date Apr 70

-3 Sp.

Available from—Soil Conservation Society of America, 7515 Northeast Ankeny Rd., Ankeny, Iowa 50021 (\$1.00)

EDRS Price MF-S0.25 HC Not Available from EDRS.

Descriptors... Biology. *Conservation Education. Ecology. *Environment. Environmental Educa-tion. *Natural Resources. *Science Fairs. *Science Projects. Soil Science... Water Resources

Included are ideas, suggestions, and examples for selecting and designing conservation science projects. Over 70 possible conservation subject areas are presented with suggested projects References are cited with each of these subject areas, and a separate list of annotated references is included. The references pertain to general aubject materials, information on how to conduct an investigation or caperiment, and information on how to organize an exhibit or demonstration. (PR)

ED 085 163 RC 007 514

Outdoor Recreation Activities at Cispus, Cispus Environmental Center, Randle, Wash. -16p

EDRS Price MF-\$0.65 HC-\$3.29

Descriptors-Course Descriptions. *Curriculum Design. Educational Equipment, High Schools. Junior High Schools. Lumber Industry. *Out-door Education. Physical Activities. *Physical Development. *Recreational Activities. Activities. *School Regreational Programs, Student Centered Curnculum, Teaching Guides

Most of the activities in this booktet have been . developed around skilts related to the outdoors and, in particular, to the logging industry and forest fire fighting. The activities attempt to develop muscles, coordination skills, and team, work. They also give the students (juntor high. school or high school) and stuff the Opportunity school or high school) and stall the opportunity to do something that they have only read about, watched on T V, or heard about. It puts the student in the role of logger or forest fire fighter. These activities are only suggested. There are lusts of needed equipment in each of the activity sheets. Various types of equipment companies where they can be obtained, and approximate prices are also listed. (FF)

ED 167 312 -RC 011 200 Berezowski, P. E. And Others Shopping Centers: Their Development and Impact on a Community.

Pub Date-76

Pub Date—76
Note—60p.: Best copy available
Pub Type— Guides · Classroom · Teacher (052)
EDRS Price MF-80.83 HC-83.50 Ples Pottage.
Descriptors—*Activates. Architecture. Commercial Art, *Consumer Economics, Costs. Design.
Elementary Education. *Experiential Learning.
Interdisciplinary Approach. *Land Use, Methods,
Objectives, *Guidoor Education. Proximity, Resource Materials. Transportation
Identifiers—*Community Studies. *Shopping Centers

Presenting extensive background material on the development of shopping centers, this paper in-cludes elementary and junior high school outdoor education activities centering upon shopping center studies. Background material includes analysis of the following: ahopping center types (architecture, regional location, etc.), land use (guidelines for successful center development, capital costs and serlocational considerations, problems restricting fand use, conditions affecting develop-ment, and area required for retail stores), transporhelon and communication (transit system and hopping center parking requirements). Consumer behavior (determinants of store choice, store lay-outs and displays, motives for shopping preference. percentage of sales by retail group, public appeal, and consumer and grocery shopping), how the residential area can affect the growth of ahopping con-

ters: advertising related to shopping centers (exterior and interior sign display and printed advertising). The activities section of this paper in-cludes activities directed toward parking lots: people; consumerism and comparative studies, advertising; service, security and design; residence and area can affect capital costs and transportation; and the classroom Each activity is defined in terms of objective and method. For example, the third acuvity in the activity section on parking lots is titled "Parking Spaces Available"; objectives include determination of the number of parking stalls available and the number available for customer parking: method involves counting, multiplying (rows), and subtracting skills. (JC)

ED 174 364 RC 011 193

Fairwell, Kay. Ed. And Others
The OBIS Trail Modult. Trial Version.
California Univ. Berkeley. Lawrence Hall of

Science.

Spons Agency—National Science Foundation.
Washington, D.C.
Pub Date—Jan 76
Grant—NSF-SED-72-05823
Note—25p.
Available from—Outdoor Biology Instructional
Strategies, Lawrence Hall of Science. University
of California. Berkeley. California 94720 (\$2.00)
Pub Tyne—Guides. Classroom - Lesper (951)—
Pub Tyne—Guides. Classroom - Lesper (951)—

of California. Betkeley. California 947/U (3/200)
Pub Type— Guides - Classroom - Learner (051) —
Guides - Classroom - Teacher (052)
EDRS Price - MF01/PC01 Plus Postage.
Descriptors—Activity Units. Biology. *Biology Instruction. Construction (Process). *Ecology. Educational Objectives. Elementary Secondary Education, *Environmental Education, *Experiential Learning, Field Instruction. Group Activi-ties. Illustrations. Instructional Materials, ties. Illustrations. Instructional Materists, Learning Modules. Material Development. Met-ne System. *Outdoor Education. *Trails. Youth Clubs. Youth Programs

Identifiers—Environmental Impact Studies. Ero-sion. *OBIS Program. Outdoor Biology Instruc-

tional StrateRies

Designed to allow youngsters aged 10 to 15 to Designed to allow youngsters aged 10 to 15 to experience the challenges and problems environmental investigators might face making an environmental impact study, the trial version of the Outdoor Biology Instructional Strategies (OBIS) Trail Module focuses on aspects of construction related environment problems. Four activities are included in the Module: (1) "Trail Impact Study", in which providence that a consequent for a consequent for a which providence that a consequent for the module of the consequent for the consequence for the consequent for the conse included in the Module: (1) "I rail impact Study in which participants plan a safe, enterential total path that will have minimal impact on the site. (2) "Cardiac Hill" in which participants use pulse rates as a guide to finding the maximum steepness for a trail along which hikers can walk comfortably. (3) "Hold a Hill" an activity to determine how steep a trail can be before excessive crosson occurs; and (4) "Trail Construction", finding the best construction technique for the site. The individual, water-proof folio for each activity includes activity deplanation, preparation, materials, action, discussion, and folup. Other materials are an overview of the Module and OBIS, and an equipment card indicating how to make inexpensive metric materials for measuring slope. (SB)

ED 174 365 RC 011 194 Fairmell, Kay. Ed. And Others
Outdoor Biology Instructional Strategies Trief Edition. Set I. California Univ., Berkeley, Lawrence Hall of Science. Spons Agency—National Science Foundations Washington, D.C.

Pob Date—Jan 75 Grant—NSF-SED-72-05823

Note-219p.
Available from-Outdoot Biology Instructional StrateBies, Law retiee Hall of Seience, University of California, Berkeley, California 94720 (\$8.50) Pub Type — Guides • Classroom • Learner (051) — Guides • Classroom • Teacher (052)

Guides - Classroom - Teacher (052)
EDRS Price - MF01/PC09 Plus Postage.
Descriptors— Activity Units, Animal Behavior, Biology. "Brotogy Instruction, Construction (Process), Earth Science, Ecology, Educational Games, Educational Oblectives, Elementary Secondary Education, *Environmental Education, *Experi-ential Learning, Field Instruction, *Group Activis Education.

ties. Illustrations. Instructional Materials, Learning Modules. *Outdoor Education. Plant Identification. Simulation. Water Resources, Youth Clubs. Youth Programs Identifiers—*OBIS Program. Outdoor Biology In-

structional Strategies

The Outdoor Biology Instructional Strategies (OBIS) Trial Edition Set I contains 24 visited activittes which make use of erafts, simulations, and basic investigative techniques to provide introductory learning experiences in outdoor biology for children aged 10 to 15. The individual water-resistant folio for each activity includes biological definitions and concepts, materials list, preparation, action, discussion, follow-up, and suggested subsequent activities. Among the activities are studies of animal move-ment in water, leaves, natural recycling in soil and ment in water, leaves, natural recycling in soil and in water, seed dispersal, ponds, natural camouflage, and predator devices. Making sun prints, mapping a study site, plant hunts, and introductory census activities are also included Set I includes 3 introductory folios. "What is OBIS?" explains the project's governing concepts and goals. The "Leader's burying al Kit" notes good activity sites, sample activity sequences, and safety information. An "OBIS Tool Boy," contains Equipment and Technique Cards given Box" contains Equipment and Technique Cards giving instructions for building and using various inex-pensive equipment such as Plankton nets and weed grappies instructions for each device are complete on one eard. Finally, there are 2 booklets, a Pond Guidr and a Lawn Guide, designed for quick and easy identification, via pictures, written descriptions, and size scales, of the most commonly encountered organisms in those locations. (SB)

ED 174 366 RC 011 195 Fairs III. Kay. Ed. And Others
Outdoor Biology Instructional Strategies Trial
Edinon. Set 11. California Univ., Berkeley. Lawrence Hall of Science. Spons Agency-National Science Foundation.
Washington, D.C.

Pub Date—Jun 75 Grant—NSF-SED-72-05823 Note—175p.

Available from—Outdoor Biology Instructional Strategies, Lawrence Hall of Science, University of California, Berkeiey, California 94720 (S9 50) Pub Type—Guides - Classroom - Learner (051) — Guides - Classroom - Teacher (052)

Guides - Classroom - Teacher (652)
EDRS Price - MF01/PC07 Plus Postage,
Descriptors—*Activity Units, Animal Behavior, Biology, *Biology Instruction, Construction (Process, Earth Science, Ecology, Educational Games, Elementary Secondary Education, *Environmental Education, *Experiental Learning, Field Instruction, *Group Activities, Illustrations, Instructional Materials, Learning Modules, *Outhout Fully Court Childs. door Education. Water Resources, Youth Clubs, Youth Programs
Identifiers—OBIS Program, Outdoor Biology

structional Senes

The 2ª serivines in the Outdoor Biology Instruc-tional Strategies (OBIS) Trial Edition Set II use living Organisms such as crabs, birds, era) fish, lichens. and insects to investigate biological interrelation-snips, organism behavior, and species density to promote greater environmental and sensory aware. prointed greater environmental and sensor aware-ness. The activities, designed primarily for groups of enderen ages 10 to 15, focus on terrestrial, beach, freshwater, marine, woodland, and other habitats Light and its effect on animal behavior, study of interridal plant and animal colonies. hibernation site study, comparison of meets in lawn areas and weeds areas, a simulated oil spill, investigation of sea movements and currents, and a series of envicommental games are among the specific activities. Each is presented in a folin with an introduction, list of materials. Betton, discussion, and follow up. There are three additional folios (1) an introduction to OBIS (2) a "Leader's Surviva! Kit", with suggestions for the combination of the Ses I and II action. ties into various learning modules organized by b.o.ogical or environmental concept, skill, or habitall, and (3) an OBIS Tool Box, containing Equipment and Technique Cards with instructions for the construction and use of inexpensive equipment auch as bird feeders and tide stakes (SB)

ED 174 367 RC 011 196 Fairwell, Kay, Ed. And Others
Outdoor Biology Instructional Strategies Trial

Edicion. Set III. California Univ., Berkeley, Lawrence Hall of

pons Agency—National Science Foundation.

Pub Date-77 Grant-NSF-SED-72-05823

Note-161P

Available from—Outdoor Biolog) Instructional Strategies, Lawrence Hall of Science, University of California, Berkeley, California 94720 (\$10.50)

of California, Berkeley, California 94720 (510.50)
Pub Type—Guides - Classroom - Learner (051) —
Guides - Classroom - Teacher (052)
EDRS Price - MF01/PC07 Plus Postage,
Descriptors—'Activity Units, Adjustment (to Environment), Animal Behavior, Biology, *Biology, Instruction, *Botan), Construction (Process),
Ecology, Educational Games, Educational Objectives, Elementary Secondary Education, *Environments, Education, *Experiences, *Education, *Experiences, *Education, *Experiences, *Education, *Experiences, *Education, *Educati tonmental Education. *Experiential Learning. Experiments. Field Instruction, Group Activities. Illustrations. Instructional Materials. Learning Modules. *Outdoor Education, Youth Clubs. Youth Programs
Menufiers—*OBIS Program. Outdoor Biology In-

structional Strategies

The predominant focus of the 24 Outdoor Biology Instructional Strategies (OBIS) Trial Edition Ser III activities is on animal behavior, and the adaptations and diversity of both plants and animals. Night time activities, games, investigation, experimentation. and erafts are used to study ants, birds, elams, water smalls, water striders, spiders, fizards, pillougs, sow bugs, jays, and plants. The holding adaptations of water organisms, response of animals to varying light conditions, stalking, food preferences, and pigmentation are also investigated. The activities, ormentation are 2300 in estigated. The activities, organized in 24 separate, water-resistant folios, include introduction, preparation, materials, actions, follow up, and related activities. There are 3 additional folios. An "OBIS Tool Box" provides information for construction and use of simple equipment, such as a clam noop, mare rig, night shine flashlight, and sweep net, and explains game varia-tions and craft methods. There is an order form for hard-to-locate materials. A "Survival Kit" for leaders contains sample combinations of activities from Sets I. II, and III to of ganize concept packages and skill units. as well as tips on safety, conservation, and site-selection. "What is OBIS?" explains some major biological and environmental concepts embraced by the activities. (SB)

ED 174 368 RC 011 197 Throgmorson, Larry, Ed. And Others

Outdoor Biology Instructional Strategies Trial Edition, Set IV. California Univ., Berkeley, Lawrence Hall of

Science. Spons Agency—National Science Foundation. Washington, D.C. Pub Date—78

Pub Date

Grant-NSF-SED-72-05823

Note-137p.

Available from—Outdoor Biology Instructional Strategies, Lawtence Hall of Science, University of California, Berkeley, California 94720 (511.50)

Pub Type—Guides - Classroom - Learner (051) —
Guides - Classroom - Teacher (052)
EDRS Price - MF01/PC06 Plus Postage.
Descriptors—Activity Units. Animal Behavior. Biology, Biology Instruction, Construction (Proceed) ets), Earth Science, Ecology, Educational Games, Educational Objectives, Elementary Secondary Education, "Experiential Learning, Field Instruction, *Group Activities, Illustrations, Instruc-tional Materials, Learning Modules, *Outdoor Education, Simulation, Water Resources, Youth Clubs. Youth Programs
Identifiers—OBIS Program. Outdoor Biology In-

structional Strategies

Eight games are included in the 24 activities in the Outdoor Biology Instructional Strategies (OBIS)
Trial Edition Set IV. There are also simulations. erafts, biological techniques, and organism invesngations focusing on animal and plant life in the for-est, desert, and snow. Designed for small groups of children ages 10 to 15 from schools and community Youth organizations, the activities include the study

vines, damselfly and dragonfly popultions, hopping animals, tree growth, soil differences, and plants that can live in the snow These strategies for outdoor learning expenences are individually packed in folios that include persinent biological concepts, materials lists, preparation, action, follow up and a list of related acrivities. Also included in the Set are a guide to OBIS: a "Leader's Survival Kit" with ideas for safety, conservation, and site selection, as well as suggestions for combining activities from Sets I. II. III. and IV into concept and skill-modules: and a "Leader's Tool Box", describing certain ciological techniques and detailing the building and use of home-made equipment such as thermometer dipsticks, pollen boards, and desert leaf models. (SB)

Fielder, Erica Shaffer, Carolyn Ecology for City Kids.

San Francisco Ecology Center. Calif.
Spons Agency—San Francisco Foundation. Calif.
Pub Date—Apt 76

Pub Type—Guides - Classroom - Teacher (052)
EDRS Price - MF01/PC03 Plus-Postage.
Descriptors—Ecology. *Environmental Education.
Experiential Learning. *Field Trips. *Instructional Materials. Junior High Schools. Learning Activities. *Outdoor Education, Urban Education, *Urban Environment, *Worksheets

Identifiers-San Francisco

This setapbook provides jumor high school teach. ers with tested activities and ideas that bring ecology to urban students without going far away (just around the block), without taking long hours to prepare, and without spending precious budget money. Awareness of the richly varied, Pleasant and nor-so-pleasant sights, sounds, and textures of the city is fostered through games and make-believe (Who eats who in the food chain? What does it feel like to be a tree? What if all the cars went away?). adventures exploring new territory (making crayon rubbings of everything from leaves to man hole covers); discovering wild things (banana slug traits on concrete street embankments of spider webs on back-buildings); and becoming private "eyes" and public investigators (by participating in treasure bunts and conducting "man-on-the-street" inter-views). Worksheets, all of which can be duplicated, involve students in an interdisciplinary approach to learning and give structure and focus to the learning experience. The activities can be conducted in any order and, for the most part, in any eity neighborhood. (NEC)

Secondary

ED 116 910 88 SE 019 468 Camping Skills. Environmental Education Corriculum.

Topeka Public Schools, Kans.

ons Agency—Bureau of Elementary and Secondary Education (DHEW/OE), Washing-

Pub Date Apr 73

Note-35p.: Contains occasional light type EDRS Price MF-\$0.76 HC-\$1.95 Plus Postage Descriptors-Camping, Conservation Education Curriculum Oevelopment, Ecology, "Educable Mentally Handicapped. *Environmental Educa-tion, Field Trips. Outdoor Education. Recrea-tional Activities. Science Education. *Seconda-ry Grades, *Teaching Guides

Identifiers—Elementary Secondary Education Act
Title III, ESE A Title III

This unit on camping skills is designed for seincial education students at the high school level. The objective of the unit is to provide students with an adequate camping knowledge and skill development to allow them to participate in camping activities. There is an emphasis on maintaming environmental quality as a part of good camping practices. Topics in this unit include reasons for camping, selecting the camping equipment, clothes for camping, selecting a gampsite, and the setting up and taking down of a tens. Each of the 10 topics provides the teacher and student with an overall objective and a number of related activities. To further aid teachers, the appendix includes information on building a campfire, pitching a tent, and cooking campfire meaks, plus other topics. Directions for planning the ultimate camping field trip are given in detail for the teacher and other adult participants. (MA)

ED 158 906

RC 010 631

Kline. Jim inglemoor High School Curriculum Guide for Outdoor Recreation & Outdoor Education Northshore School District 417, Bothell, Wash, Pub Date Mar 73

Note—57p.
EDRS Price MF-\$0.83 Plus Postage. HC Not
Available from EDRS.

Available from EDRS.
escriptors—"Activities, Agencies, Archery,
Conservation Education, "Curriculum Guides,
Ecology, Educational Objectives, Educational
Resources, Field Experience Programs, Or**Transactions** (Groups), Orientecting, "Outdoor Descriptors - Activities, ganizations (Groups), Orientece Programs, Orientecting, "Outdoor Education, "Recreation, Safety Education, "Secondary Education, Units of Study Identifiers—"Fishing, "Hunting, Survival Skills

Descriptions of 12-week courses in hunling and fishing and in outdoor activities for male and female students at Inglemoor High School in Bothell. Washington, are presented in this eveniculum guide for outdoor education and recreation. Offering both classroom and field experience, each of the two courses meets 55 minutes daily, recommended class size is 28. The guide is organized by course units, with each unit listing its specific goals, objectives, activities, materials, and time needed for the unit. Main objectives of the hunting and fishing course are to develop skills and educate students in safety procedures, conservation practices, and ecological relationships Unit headings include celation-ship of hunting to ecology, conservation, and man, hunter, boating, firearm, and fishing safety, marksmanship, hunting methods, equipment, hunting and fishing regulations, preparation, eare. and use of game meats, fish, governmental agengame fishing, making tods, tures, fly tying, map and fishing, making tods, tures, fly tying, map and compass; survival education/emergency preparedness. The outdoor activities course has units on outdoor experience and man, hackpacking, map and compass, survival educatunicmergency preparedness, vailing, recreational shouling, and archery. The guide also provides a resource directory and hibbography. (RS)

RC 011 207 ED 167 317 Swan, Malcolm D Outdoor Education: Community Studies Through I leid Experiences.

New Mesico State Units, Unit ersits, Park, ERIC Cleatinghouse on Rural Education and Small i hoo's

South Agency—National Inst of Education (DHEW), Washington, O.C., Pub. Oute—Feb. 79
Contract—100-75-6025

Note - "2p

Available from - National Educational Laboratory Purkshers Inc., 813 Airport Blod., Austin, Texas 78 127 (EC-07-) 56 50) -- Type - Guides Classroom - Texeher (052)

EDRS Price NfF-80.83 HC-83.50 Plus Postage.
Desentions—"Community Surveys. Demonstra-

non Programs. Experiential Learning, "Field Ex-Penance Programs, Field Instruction, Field Trips, Legal Responsibility Organization, Outdoor Education, Program Descriptions, Program Development, Program Planning Recordsceping, Records (Forms), Secondary Education, Student Experience, *Teaching Guides Identifiers—*Community Studies, Information

Studies. Information

Analysis Products

Field experiences in which high school students work away from the classroom to study their own communities are often considered to be the most aluable aspect of an educational program However the educator who seems to provide field experiences for students must plan and organize this program catefully. He must establish clearly defined objectives and communicate them to administrators, peers, and students. Scheduling arrangements to give students more time away from school should be arranged. The teacher must become familiae with potential liability promems associated with field trips and take peccautions to assure the safety of his students. He should carry personal professional liability insurance. He musi as groundwork in identifying sites and approaching resource people. Students must be counseled on appropriate behavior, meluding proper conduct, interviewing techniques, and sensitivity to the rights, feelings and needs of mose with whom they come in contact. Follow up activities should continue on the study long after student reports are turned in. This document is intended to encourage and goide teachers interested in community studies. It desembes the value of such work, lists potential subject areas, and discusses exemplary community studies. Steps to organise and conduct a study are presented along with samples of questionnaires and data gathering forms. (OS)

ED 173 057 RC 011 555 Acadia: A Wocking Manual.

Project Adventure, Hamilton, Vloss.

Spons Agency — Bureau of Elementary and Secondary Education (DHEW OE) Washington D.C. Dis of Compensatory Education Pub Oate -- 78

Note-26p. Best copy available Available from-Project Adventure, Boy 157

Available from Project Adventure, Boy [57]
Hamilton Massachusetts 01936 (S 60)
Pub Type— Guides • Classroom • Learner (051)
EDRS Price • MF01/PC02 Plus Postage.
Descriptors• Affective Objectives. Biological
Sciences. • Ecology. Educational Games. Environmental Education. • Experiential Learning. •
Evil Trips. Grad. 10. • Heb School Studying. formental Ections - Experiental Learning. Frield Trips. Grade 10. "High School Students. Interdisciplinary Approach. "Learning Activities." Observation. "Outdoor Education. "Physical Education, Secondary Education, Validated Proerams

Identifiers— Acadia National Park, National Diffu-sion Network Programs, *Project Adventure The workbook of field eculogy indust use by high

school science students participating in two and one-half day weekend trips to Aladia National Park, Maine, as part of Projes i Adventure, an interdisciplinary program aimed at educating the whole defining the speriment of country in academies and a physical education program in the outdoors. Physical education activities during the weekend include liking, rappeling, and siff climbing Academic activities rely heavily on observation and include the study of water, dains, fullen trees. beaver huts, rock slides, vegetation, ecological rela-

tionships, local history, scaweed, sand, animal life, ponds, and shorehine A wavenger huni is included which encompasses all aspects of the Park Introductory material includes charts, maps history of the area, and sociability. There is a follow-up ever-eise concerning student reaction to the weekend. The availability of additional information on Project Adventure is noted on the cover sheet (S8)

ED 176 908

RC 011 456

Thompson. Doug Rooney, Jim

City Experiences. Guidelines for Urban Adven-

Pub Date-Nov 77

Note-19p.

Pub Type- Reports - Descriptive (141)

EDRS Price - MF01/PC01 Plus Postage.

Descriptors-Affective 'Objectives, Alternative Schools, Architectural Education, Educational Games, "Experiential Learning, Field Trips, Grade 9. "High School Students, Human Resources, "Interdisciplinary Approach. Learning Acity, ties. *Outdoor Education, Perception, Seconders Education, Self Directed Groups, Skill Development, Suburban Youth, Teacher Responsibility. Teacher Workshops. Traditional Schools, Liban Areas. *Urban Education Identifiers-Adventure Education.

Colorado (Denser), New York (New York), Outward

Bound

The booklet provides guidelines, concrete curnoulum plans, and fough ideas on urban adventure programs for suburban high school students. Following an overview that explains a three-phase organizing theory (exploration, focusing, action) for urban programs, there are descriptions of: a studentfestived and conducted are intectural tour of New York City: a program based on an urban scavenger hant for minth graders in traditional schools in the Denver area: an intensive 5-day experience in Dener for an alternative high school: 19 specific urban awareness activities that involve observing, questioning, and synthesizing, ideas for written projects based on urban conduions in New York, how and where to find and interview resource people in a erty, and a 3-day urban experience for teachers run by the Colorado Outward Bound School. A list of 15 "process skills" necessary for successful urban adventures is included, as well as a discussion of teacher liability during city expenences. (SB)

SE 029 542 ED 180 813

Long. David C. Powell. Nancy A. Field Ecology. Grades 10-12.

Rocky River Public Schools, Ohio.

Spons Agency—Office of Education (DHEW).

Washington, O.C., Ohio State Dept. of Education, Columbus, Oiv. of Research, Planning, and

Evaluation. Pub Date-[77]

Note-90p.: Contains occasional light and broken

type
Pub Type— Guides - Classroom - Learner (051) EDRS Price - MF01/P604 Plus Postage.
Descriptors—Biology. Conservation (Environ-

Descriptors—Biology. meni), *Conservation Education, Earth Science, *Ecology, Environment, *Environmental Education, Field Trips, Natural Resources, *Quidoor Education, Pollution, Science Activities, "Science n. Secondary Education. Teaching Water Pollution Control. Water Re-Education. Teaching

Presented are activities which provide a program of first-hand experiences in field ecology for groups of three to five students under the leadership of a teacher oc adult colunteer. Concentration is eentered upon study of the effects of environment on liking plants and animals and the interperendence of members of ecosystems. Each investigation includes background discussion, objectives, a list of needed materials. Procedure, evaluation, recommendations for further threstreation, and references. The sequence of investigations is designed for completion in a one-semester program (RE)

SE 029 543 ED 180 814 Jennings Frederick Metro, Peter M. Ecology for the Exceptional Child, Grades 7-12

EMR.
Rocky Ricer Public Schools. Ohio
Spons Agency—Office of Education (DHEW).
Washington, D.C. Ohio State Dept. of Education. Columbus. Div. of Research. Planning, and Ecaluation.

Pub Date-[77] Note-158p.: Contains occasional light and broken

type
Pub Type— Guides - Classroom - Learner (051) — Guides - Classroom - Teacher (052) EDRS Price - MF01/PC07 Plus Postage.

Descriptors-Conservation Education. Ecology. Environment, "Environmental Education, "Et-ceptional Child Education, "Mental Retardation," Natural Resources, "Outdoor Education, Science Activities, Seience Education, Secondary Education, "Special Education, Teaching Guides

This guide presents a student-centered program of outdoor education for students of differing exceptionalities. The role of the teacher is intended to be one of support and guidance with student involve-ment being essential. The manual contains activities for large groups, small groups, and individuals. Acneities direct students toward learning related to their environment, and toward increased sensitivity and awareness of the aestheties of their surroundings. Each activity includes a rationale a terminal Objective statement, an instituctional objective and suggested activities. Sufficient curriculum materials are provided for a continuous three-)ear program (Author/RE)

RC 011 573

ED 183 297 Myers Ray Recreatite Arts Outdoor Education. Dallas Independent School District, Tex. Pub Date—76 Note-1470.

Pub Type— Guides - Classroom - Teacher (052) EDRS Price - MF01/PC06 Plus Postage.

Descriptors—Activities, Archery, Cambing, Course Content, "Experiential Learning, "Field Experi-ence Programs, Field Instruction, First Aid, Geographic Regions, Instructional Materials, "Interdisciplinary Approach, "Outdoor Éduca-uon, Recreational Programs, Resource Materials, Safety Education, Science Education, "Secondary

Education, "Units of Study
Education, "Units of Study
Identifiers—Bosting Safety, Dallas Independent
School District, Fishing, Horseshoe Pitching,
Hunter Safety, Survival Skills, "Texas

Emphasizing an interdisciblinary, experiential learning approach, this curriculum guide is designed for a one year recreative arts-outdoor education course for high school students in the Dalias (Texas) Independent School District. The course objective is to develop the skills and knowledge necessary for fostering responsible behavior in an outdoor setting; study of the environment is basic to the course. The mine four-week units include identification of all Tetas fish and windlife, the American Red Cross Standard First Aid Course, the Texas Hunter Safety Program, archery, survival, camping, boating safety (Tetas Skippers Course), casting and angling in Texas, and horseshoe pitching Each topic in a unit is described in terms of Soals, projects, and activities. Resources and supporting materials for both teachers and students are detailed and include films. filmstrips, maps, periodicals, pamphlets and books. The units devoted to first aid and hunter and boating safety can result in student certification by the appropriate organization upon successful completion and testing, (NEC)

ED 196 731 SE 034 032 On Campus Activity Guide. Environmental Educa-

Pinellas County School Board, Clearwater, Fla.

Spons Agency—Florida State Dept. of Education,
Taliahassee Office of Environment Education,
Pub Date -79

Note-47p Pub Type- Guidex - Classroom - Teacher (052)

Descriptors—Biology. Earth Science. "Ecology.

Environmental Education. Mathematics Education. "Outdoor Education." Science Activities. Science Educatio Science Instruction, Second-ary Education, "Secondary School Science Identifiers—Plants (Bulantia, "School Yards

Descriptions of about 100 secondary-level activihes that can be dolle on the school grounds are presented Among the lessons included are a study of life in sidewark arocks, methods of estimating animal populations was testing controcting and using triangulation instruments to map the school area, and cresuse writing exercises. Although most activities are science-oriented, many involve mathematics and language arts skills (WB)

RC 012 519 Copen, Peter And Others

Walkabour An Educational Experience.
Putnam and Northern Westehester Counties Board
of Cooperative Educational Services, Yorktown of Cooperative Edu Heights, N.Y. Pub Date—4 Jan 80/

Note-15p.: For a related document, see ED 183

Pub Type— Reports - Descriptive (141)
EDRS Price - MF01-PC01 Plus Postage.
Descriptors—"Academic Achievement. Communication (Thought Transfer). Counselor Role, Education (Thought Transfer). Counselor Role, Edu-cational Environment. Educational Innovation, *Elective Courses, Experiential Learning, *Glassical 12. Learning Experience. *Outdoor Education, Parent Attitudes. School Community Programs. Secondary Education. Self Concept. *Self Es-teem. Speech Skills, Student Attitudes, *Work Experience Programs
Identifiers—New York. *Walkabout, Wilderness
Education Programs

The Walkabout program is an optional senior-year educational experience in which New York high school students can acquire the basic skills and confidence to take charge of their lives and contribute to the world The year-long program is divided into 5 "challenge environments" wilderness (5 weeks), applied academics (18 weeks of health and personal awareness. language arts, social studies, and envi-ronmental setence), career internship (9 weeks); community service (3 weeks), and final presentation (1 week). These provide students with the opportunity to learn basic and relevant skills, go beyond their self-perceived limitations, recognize their option to change how they deal with others, make meaningful accempitshments, begin to clarify career options, and carn credit toward a high school di-ploma. Grading is based on an "honors," "credit." or no-credit system The state-approved program is most applicable for average to bright students, either male or female. Interested high school juniors apply and participants are selected for the program from among the applicants. The Walkabout staff serve not only as teachers but also as friends and advisors to the atudents. Parent, student, and staff reactions to the program are positive. (SB)

ED 200 381 AC 012 625

The Adventure Book-A Curriculum Guide to School Based Adventuring mith Troubled Adoles-

Wilderness School Goshen, Conn.
Spons Agency - Connecticut State Dept of Education. Hartford. Bureau of Pupit Personnel and Special Education Services.
Pub Date—[80]
Note—111p. Paper copy not available due to Publi-

sher's choice

Available from-Wilderness School Alternative Education Project, Box 2243, Gushen, CT 06756

(\$6.50)
Pub Type - Guides - Classroom - Teacher (052)
EDRS Price - NIFO1 Plus Postage, PC Not Availa.

ble from EDRS.
Descriptors—Adi ote from EURS.

Descriptors— dodescent Development. Adventure Education. Behavioral Objective. Behavior
Change. Behavior Problems. Delinquent
Rehabilitation. Entichment Activities. Experiential Learning. Nontraditional Education. Outdoor Activities. Outdoor Education. Program
Design. Secondary Education. Self Concept.
Special Programs
Designal in Designal.

Designed to provide information for teachers wanting to use adventure activities with students and to help teachers in developing programs with clear objectives solid logistic support, and safe poli-cies and procedures, this teaching goods focuses on the goal of having a permanent impact on the selfconcepts behaviors and attrodes of troubled adolescents. Two introduceurs chapters give an overview of the Wilderness School and the field of outdoor education its history purposes processes and theories. And emphasize that the intent of the

· 3 · 24

book is to present outdoor activities as small, manageable lessons that can be taught *5 in the classroom or schoolyard and 25 outdoors. In Section 1 the guide Presents discussions, activities, and lessome, and metric tions on how to use them, in the faillioning areas (1) initiative problems (2) prerequisite dalle, (3) backpacking and hiking (4) padding. (5) rock clumbing. (6) and here in winter (1) encebment activities and (8) debriefings. Section II, written for program organizers, includes a sample one-year calendar of activities, information on scheduling, logisties, cafety policies and procedures, prograin evaluation, and checkeds or equipment Appendices ployede a sample contract from the Wilderness School program, but reviews of the school's research, and a bibliography (JD)

ED 201 422 Foster Allan

RC 012 634

Fosten Allan
Kortight Centre for Conservation; Water Theme.
Metropolisis Toronto and Region Conservation
Authority, Downsview (Ontario).
Pub Date—Sep 79
Note—29p., For related documents, see RC 012
633 and RC 012 635.636.
Pub Type—Guides - Classroom - Teacher (052) —
Reports - Descriptive (121)
EDRS Price - MF01/PC02 Plus Postage.
Descriptors—Audience Paracipation. Audiovisual
Aids. Conservation (Environment). *Conservation Education. Demonstration Programs. Group
Instruction. *Information Dissemination (Infornon Education. Demonstration Programs. Group Instruction. "Information Dissemination. Information Sources, Land Use. "Management Systems. Natural Resources. Objectives. Observations! Learning. "Outdoor Education. "Resource Centers. Soil Conservation. Thematic Approach. "Water Resources. Identifiers—Canada, "Kortright Centre for Conservation ON. Onatrio (Toronto).

One of a series of four reports on specific conserwation themes, this feport (on water) is intended to consolidate techniques which will best communicate the legislation, role, objectives, and practices of the Metropoutan Toronto and Region Conservation Authority in land and water management, to retain the physical characteristics of the land in order to preserve the natural flow of watercourses and precent flooding, and to maintain areas for wildlife habitats and for public access and recreation. Meth-ous used by the Kortright Centre for Conservation to give visiors an understanding of and appreciation for water, its use and management as a renewable natural resource are described. Rey elements of a successful interpretive program are listed as positive messages, relevance, entertaining presentation and acrive participation. Components used to develop the Water Theme are detailed, including audiovisual presentations, indoor exhibits, outdoor demonstrations and exhibits, and sale of publications and merchandise. The final section describes the Centre's programs at three levels structured (for organized groups such as classes or special interest clubs), unstructured (for the public and groups with no speciale program request), and passive (for groups using the Centre's facilities for meetings, but which may not have conservation as a primary in-terest). (CM/MH)

ED 201 423

RC 012 635

Foster, Allan Kortright Centre for Conservation: Forestry Theme.

Metropolitan Toronto and Region Conservation Authority, Downsview (Ontano).

Pub Date—Nov 78

Note—31p.; For related documents, see RC 612
633.634 and RC 012 636.

Pub Type— Guides • Classroom • Teacher (052) — Reports • Descriptive (121)

EDRS Price - NIF01/PC02 Plus Postage.

Descriptors—Audience Participation, Audiovisual Aids, Conservation (Environment), *Conservation Education, Demonstration Programs, *For-"Information Group Instruction. Dusemination, Information Sources, Land Ute. Legislation. "Management Systems, Natural Resources, Objectives, Observational Learning," Outdoor Education, "Resource Centers, Soil

Conservation, Thematic Approach Identifiers—Canada, "Kortright Centre for Conservation ON, Ontano (Toronto)

One of a series of four reports on specific conservation themes, this report on forestry is intended to consolidate techniques which will best communicate the legislation, role, objectives and practices of

the Metropolitan Toronto and Region Conservation Authority in retaining forest cover and extending it over additional areas. Facilities and programs used by the Kortnight Centre for Conservation to give visitors an understanding and appreciation of the forest, its use, and its management as a renewable natural resource are described. Key elements of a successful program are listed as positive messages. relevance, entertaining presentation, and active parucipation. The components used to develop the Forestry Theme are described, and include audio/visual presentations, indoor exhibits, outdoor demonstrations and exhibits, and sale of related publications, merchandise—and food (i.e. maple ayrup). The final section outlines programs offered at the Centre for organized groups, such as classes or special interest clubs; for the general public; and for groups that use the Centre's facilities for meetings. (CM)

ED 201 424

RC 012 636

Foster, Alian Kortright Centre for Conservation: Fish and Wild-

Metropolitan Toronto and Region Conservation Authority, Downsview (Ontano). Pub Date—Jan 80

Note-38p.; For related documents see RC 012 633:635.

633-633.

Pub Type— Guides · Classroom · Teacher (052) —
Reports · Descriptive (141)

EDRS Price · MF01/PC02 Plus Postage.

Descriptors—Audience Participation. Conservation (Environment). *Conservation Education. tion (Environment). *Conservation Education.

Demonstration Programs. Group Instruction,
*Information Dissemination. Information
Sources. *Land Use, Legislation. Management
Systems, Natural Resources. Objectives. Observational Learning, *Outdoor Education. *Resource Centers. Themanic Approach, Wildlife,
*Wildlife Management
Identifiers—Canada, *Kortright Centre for Conservation ON, Ontario (Toronto)
One of a series of four resource by specific conserv

One of a series of four reports on specific conserconservation themes, this report on fish and wildlife intended to consolidate techniques which will best communicate the legislation, role, objectives, and Practices of the Metropolitan Totonto and Region Conservation Authority in ennancing habitats for fish and wildlife throughout the watersneds. Methods used to the Metropolitan Conservation for the Metropolitan ods used by the Kortright Centre for Conservation to give visitors a better understanding of and ap-preciation for fish and wildsite, their use and their management as renewable natural resources are described. Key elements of a successful interpretive program are listed as positive messages, relevance, entertaining presentation, and active participation. Components used to develop the Fish and Wildlife Components used to develop the rish and which the memory audio/visual presentations, indoor exhibits, outdoor demonstrations and exhibits, and sale of relevant publications and metchandise (i.e. wildlife art, bud feeder kits). The limal section describes the Centre's programs at three levels structured (for organized groups such as classes and special interest clubs), unstructured as classes and special interest clubs), unstructured (for the public and groups with no specific program request), and passive (for groups using the Centre's facilities for meetings, but which may not have conservation as a primary interest). (CM/MH)

ED 216 828

RC 013 388

Liston. Louise Outdoor Unified Studies.

Identifiers—Anasazi (Anthropological Label), Deserts, Hiking, Survival Skills, *Utah, Utah (Es-

eris, rising, survival agins, calente, calente)
Escalente (Utah) High School's outdoor unified attidies field trip is a learning experience to-be remembered. The four-day camping experience begins with pre-trip plans, pretests, and lecture/introductions to the Anasazi culture and to geologic formations to be visited. Horses (and equipmentiably sub-the students into the desert to cks) take the students into the desert to

set up camp, then on to follow the Mountain Bench Trail to study photography, geology, native plant life and Indian ruins. On returning to camp, the horses are cared for, supper is fixed, and journals are kept before bed. The next day is filled with learning survival skills in the desert, riding horses to view ancient Anasazi petroglyphs, and sharing stories re-searched by the students on early Escalante history. searched by the students on early Escalante history. The students feel a special togetherness: they learn to express their feelings in a Social Awareness unit taught by the District Community Education Director. Games are played, there is a difficult hike through Hole in the Rock to Lake Powell for a swim, and everyone experiences "going over the edge" to rapel down a rock wall. Trip testimonies are positive; it is an experience to remember. The trip agendas for 1980-81 are included along with soals and objectives, materials needed, and evaluation methods. (LC)

Elementary/Middle/Secondary

RC 003 788 ED 033 784 88 Local Education Agency Guidebook for Resident Environmental Education Programs.

Conservation and Environmental Science Center

for Southern New Jersey, Brown Mills. Spons Agency—Office of Education (DHEW), Washington, D.C. Div. of Plans and Supplementary Centers.
Report No-DPSC-68-5679

Pub Date [69] Note — 70p

Available from Conservation and Environmental Science Center for Southern New Jersey. Post Office Box 2230, Browns Mills. New Jersey 08015 (\$1.50). EDRS Price MF-\$0.50 HC-\$3.60

Descriptors—"Administrator Guides, Administrator Role, Conservation Education, "Environmental Education, Evaluation Methods, Guidelines, "Outdoor Education, Parent Role, "Program Guides, "Resident Camp Programs. Resident Students. Supplementary Educational Centers. Teacher Role

Identifiers-Conservation and Environmental Science Center

The Conservation and Environmental Science Center for Southern New Jersey (CESC), as part of a project sponsored under Tule III of the Elementary and Secondary Education Act of 1965. has developed this booklet for administrators and teachers to aid them in the development of a resident environmental education program This booklet contains topics on past, present, and fu-ture history of CESC, the role of the administra-tor and parents: guide to the resident center, the teacher's role in making environmental literacy a part of the on-going curriculum, and evaluating effectiveness Program objectives, procedures for informing parents, sample letters to be utilized. information forms to be utilized, suggestions for releases, suggested activities, typical schedules and assignments, sample menues, and techniques for evaluating behavioral objectives are presented. Related documents are RC 003 789, RC 003 790, RC 003 792, (SW)

ED 033 788 RC 003 792 Conservation and Environmental Science Center for Southern New Jersey: Teacher's Workshop Handbook for Resident Programs.

Conservation and Environmental Science Center

for Southern New Jersey, Brown Mills Sports Agency—Office of Education (DHEW), Washington, D.C. Div. of Plans and Supplementary Centers Report Nu-DPSC-68-5679 Pub Date [68]

A-ailable from ... Conservation and Environmental Science Center für Southern New Jersey, Past Office Bay 2230, Browns Milk, New Jersey 08015 (\$150)

EDRS Price MF-50.50 HC-53.40

Education. Currieu-lum Planning. 'Environmental Education. Guidelines. Instructional Materials. I carning Activities, 'Outdoor Education.' Program Development. Program Evaluation. Program Planning. 'Resident Camp Programs, Supple-mentary Educational Cunters. 'Teaching Educational

The handbook is designed to assist teachers to obtain an clear picture of many kinds of activities and programs used in a resident program for environmental education. Information and guidelines are included on such items as. (1) role of the teacher who brings as us tu a resident program; [2] preparation and planning programs; [3] use of the outdoors as a leatning entire of the outdoors. ment: (4) skills and knowledges in environmental sciences and telated topics in environmental education; (5) evaluation of environmental education, and (6) role of the staff of the Conservation and Environmental Science Center (CESC) in providing services for each participating school Related documents are RC 003 788, RC 003 789, RC 003 790, and RC 003 791 (SW) ED 033 812 Richards. Donald J RC 003 840 And Otners

[How the Outdoor Laborator) Can Be Used As An Instructional Aid-1

Michigan State Dept of Natural Resources. Lansing.

Pub Date 68

Note-16p. EDRS Price MF-50.2S HC-S0.90

escriptors - Camping, Class Activities, Conservation Education, Elementary Grades, Environmental Education, Instructional Innovation. "Lesson Plans. Natural Resources. "Out-door Education Physical Education. Resource Guides Science Education, Sycondary Grades

The outdoor lab was planned to serve all grade levels and incorporate all appears of outdoor edurevers and incorporate all apports of octobor edu-eation Ideas for lan and classroom activities are presented for the following subject areas physical education, elementary grades, physics, chemistry, mathematics. Engigen industrial arts, home economics, biology social studies, conservation, art and language Further discussion and ideas are presented concerning outdoor education concerning outdoor education presented through school camping, correlating conservation and outdoor education with specific content areas and skills, and the utilization of natural resources.

ED 041 767 SE 009 321 Teaching Conservation Through Outdoor Education Areas.

Department of Agriculture. Washington, D.C. Forest Service

Pub Date Jul 68

Note - 26p Available from - Superintendent of Documents.

U.S. Government Printing Office, Washington, D.C. 20402 (Cat. No. 0-307-977, 50 20) EDRS Price MF-50.25 HC Not Available from

Descriptors- Conservation Education, Elementary School Science, *Environmental Educa-tion Natural Resources, *Outdoor Education. Science Facilities, Secondary School Science. Site Selection. Trails - .
This guide is for leachers (K-121 interested in

developing and using auidoor education areas. Student participation is presented as the key to a successful program. A discussion of what can be done by outdoor education programs is presented. The guide suggests sites to be chosen in terms of accessability, size, airractiveness, safety, drinking water, and samuary facilities. Trails are to be developed on these sites with zones for distinctive site features or special areas Station signs developed on these trails are separated into three types (1) identification writeups. (2) station writeups. (3) special area writeups Each type of station writeup is eaplained and illustrated with examples A special bibliography is included un the development and use of outdoof education areas (BB)

Hon, Will Yeater, Larry W. Creading Effective Field Experiences for Coastal

Carteret County Public Schools, Beaufort, N.C.

Spons Agency_Bureau of Elementary and Secondary Education (BHEW/OE), Washing-ton, D.C.

Pub Date Aug 70 Note-18p.

EDRS Price MF-\$0.65 HC-\$3.29

Descriptors—Curreulum Development. *Ecology. Environmental Education. Field Studies. *Field Trips. *Organization. Program Effectiveness. *Teaching Guides Idemifiers—ESEA Title III

This publication is part of a curriculum series developed by the Regional Marine Science Pro-ject for use by teachers and administrators. Field work, and field trups, being advocated as an integral part of the curriculum, are explained at length. The rationale and techniques of field ecology are offered relating them to the need for field trips and how to plan field expenences A sample outdoor class is outlined together with a discussion of how to put a field trip program in

the school system. This last part considers the design of an integrated program, implementation of the program, the nature of a field trip, and a field trip center. This work was prepared under an ESEA Title III contract (BL)

SE 014 227 Outdoor Classrooms and School Sites.

Soil Conservation Service (USDA), Washington,

Report No-PA-975 Pub Date Jan 72

Note-24p Available from...Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402 (Stock No. 0100-1458 - 50.25)

EDRS Price MF-50.65 HC-\$3.29 Educational Education. Descriptors—* Classroom Design. Facilities. Environmental

Guidelines. *Outdoor Education. Resource Materials. *School Space. *Site Development Out-of-doors instruction and the use of outdoor

classrooms to allow children to learn directly from the natural environment, as well as about it. are encompassed in this pamphlet. It is intended as a source of ideas for developing and using out-door classrooms on school sites of any size wherever they are tocated. Included is an explanation of how to start development of an outdoor elass-room, how to prepare a plan for the most com-prehensive use of the school site, and where to get professional help in applying conservation practices that will improve learning opportunities in addition, numerous pictures and brief descrip-tions suggest ideas for actual studies in the outdoor elassrooms (BL)

RC 006 464 Rosenstein, Irwin, Comp Donaldson, George W.,

Comp.
Outdoor Education: A Guide for Planning Resident Programs.

New York State Education Dept., Albany, Bu-reau of Elementary Curriculum Development. Pub Date 72

Note-65p EDRS Price MF-50.65 HC-53.29

Descriptors-Educational Programs. *Evaluation. Financial Support. Learning Experience. "Out-door Education. "Personnel. Program Budget. ing. "Program Planning." Resident Camp Programs, Resources, Site Selection, Teacher Role Identifiers.—"New York State

The purpose of this guide is to provide school

district administrators and teachers with guidance and direction in the planning and conduct of resident programs of outdoor education. Methods for planning and financing the program, selecting the site and personnel, determining the role of the classroom teacher, and identifying resources are described. Activities to be used in the program are listed along with suggested evaluative techniques Additional material presented in-cludes the New York State Education Law, the New York State Samtary Code, evaluation forms. and a list of resident outdoor education centers in New York State, [PS]

ED 069 468

A Field Guide to Outdoor Learning in Powell County, Blome Descriptions, Field Activities, Field Stres.

Powell County High School, Deer Lodge, Mont. Spons Agency-Bureau of Elementary and Secondary Education (DHEW/OE), Washing-

ton, D.C. Pub Date Aug 71 Note—182p. EDRS Price MF-\$0.65 HC-\$6.5g

Descriptors-Enchonmental Education.

Resources. *Outdoor Education. Resource Materials, Site Analysis. *Teaching Guides Identifiers—Elementary Secondary Education Act Title III. ESEA Title III

Serving as a guide to the outdoor areas of Powell County. Mentana and the surrounding area, this resource book is useful for reachers who wish to suplore the out-of-doors with their

students, particularly those interested in nature studies. Its aim is to produce a citizenty that is knowledgeable concerning the hyphysical environment and its related problems. Three major sections constitute the guide Section 1, Biome Descriptions, gives a general and detailed, descrip-tion of plant communities in Powell Count foil lowed by their associated soil Profiles Section 2 offers a summary of field sites. Underdeveloped sites throughout the county are suggested which allow for study of water environments, biomes, soil areas, fire burns, clear cuts, politition areas, animals, range management and geology Established outdoor environmental areas in six communities are then covered in detail. This includes a general description of the area, choice of location, pictures and maps, and a site analysis chart of botte and abient features. Sixty field activities, which ean be completed at the outdoor sites are enumerated in Section 3. Each octivity gives topic of study, grade level, site(s)"in which it may be undertaken, procedures, and related in-formation. This work was prepared under an ESEA Title III contract (BL)

ED 974 938 4 SP 006 214 Cooperative Programming of Learning Ea-periences Through Outdoor-Environmental of Learning Ea-

Milwaukee Public Univ , Whitewater Public Schools, Wis.; Wisconsin

Pub Date [71]

Note-18p

EDRS Price MF-50.65 HC-53.29

Descriptors—Educational Innovation, *Environmental Education, Learning Activities, *Learning Experience, *Outdoor Education, *Student Teaching, *Teacher Education Identifiers—*Distinguished Achievement Award

Entry
The College of Education at the University of Wisconsin-Whitewater and the Milwaukee Public Schools collaborated on a series of 2 1/2-day re-Schools collaborated on a series of 2 1/2-day reaudent camp outdoor education programs. Three
to five university students were assigned to a
camp period and received pre-camp orientation
by the program directors. The students taughtcounseled, and supervised as the program
required. Post-camp activities included class
discussion regarding the menit of teaching
methods observed and utilized, the characteristics
and capabilities of children, expectations of culand capabilities of children, expectations of cultural groups, outcomes of learning experiences. and eamp organization and administration (Evaluation materials are included) (MJM)

ED 082 919

RC 007 393

Rillo, Thomas J

Exploring the Outdoor Classroom with a Hand Lens

Pub Date 70

EDRS Price MF.\$0.65 HC.\$3.29

Descriptors-*Curriculum Enrichment. *Learning Activities. *Natural Sciences, *Optics. door Education, Physical Environment

Information about hand lenses and their use in the classroom and out-of-doors for curriculum enrichment is presented in this paper. Some basic attributes of the hand lens, including shape, focal length, and magnification power, are described. Directions for making holders for the lenses in the classroom are given Two classroom activities and 14 activities which may be carried out on school grounds are suggested as representative of the many kinds of observations that can be made with a hand lens. It was noted that, to the classroom leacher, the world of the hand lens can Open up unlimited opportunities for cyrriculum ennehmeni (PS)

ED 089 899

RC 007 801

Roller, Lib Baggage Tags for Learning Out of Doors.

Nashville - Davidson County Metropolitan Public Schools, Tenn Pub Date 74

Note-33p EDRS Price MF-\$0.75 HC-\$1.85 PLUS POSTAGE

Descriptors -Audiovisual escriptors — Audiovisual Aids. Classroom Games, * Curriculum Enrichment, Environment tal Education, Individualized Instruction, Language Arts. Mathematics. *Merchandise Information, Natural Sciences, *Outdoor Education, Science Education, Signs, Social Studies, *Teacher Aides, Trails, *Visual Learning The manual provides teachers with not only

educational outdoor activities, but also with activities that can be provided on an individual level. The only equipment needed for most of these activities is a bought or homemade "baggoge tag. These tags are used for a variety of purposes such as plant and animal identification. nature quiz games, and rockhunts. One of the best attributes of this method is that students can make up their own activities. In addition to general learning activities, the baggage tags can be used as a review or test. Suggested activities are grouped by subject area and level of difficul-ty. These are arbitrary, however, since any of ty Inese are aroutary, nowever, since any or them can be graded up or down to suit the stu-dents involved. There are 25 activities given for seience, 15 for language ans, 10 for social stu-dies, and 10 for math (KM)

ED 100 644

SE 917 359

Classroom Activities for the Interlakes Environmental and Outdoor Education Program. Chester Area Schools, S. Dak, Interlakes En-

vironmental and Outdoor Education Program. Pub Date [73]

Note-463p: Best copy available: occasional

marginal legibility DRS Price MF-50.75 HC-522.20 PLUS POST AGE
Descriptors Conservation Education. *Elemen.

tary Education, Environmental Education, Instructional Materials, Interdisciplinary Ap. structional visitenais, interdisciplinary Approach, Learning Activities, Vlathematics, Natural Resources, *Outdoor Education, *Science Education, Secondary Education, Social Studies, *Teaching Guides

This teaching guide is a collection of environmental education activities written by various educators and environmentalists. The activities are designed for use in grades K-12, each activity being identified by grade level. The guide contains over 80 activities that are listed in a short introductory guide that precedes the actual activities. The activities in the introductory guide are identified by grade level and are annotated to help the teacher identify appropriate activities for the group or situation. Activity topies such as dandelions, shadows, rain, mathematics, food chains, eroston, ereative witting, and values are included in the guide. All of the activity topics include appropriate grade level for activity use, objectives, background information, a pre-activity, a field top, a procedure or experiment, and follow-up activities. Some of the activities also contain tables, diagrams, illustrations, sample stones, or resource people. (TK)

ED 103 244

SE 018 525

Outdoor Fun for Students, An Environmental Invection. Minnesota Environmental Sciences Foundation.

Inc., Minneapolis, National Wildlife Federa-Pub Date 72

Note-25p , Related documents are SE 018 514-534

Available from-National Wildlife Federation. la12 16th Street. N.W. Washington, D.C. 20036 (Order No. 79230, \$1.50)
DRS Price MP.\$0.76 HC.\$1.58 PLUS

POSTAGE

Descriptors— Ecology, Elementary Grades, Elementary Secondary Education, Environmental Education. Instructional Malerials, Investiga-tions. *Learning Activities, Natural Resources. Outdoor Education. *Science Education. Outdoor Education. *Science Secondary Grades, Teaching Guides. Identifiers—Plants, Soil

This environmental unit is one of a series designed for integration within an existing eur-riculum. The unit is self-contained and requires little teacher preparation. The philosophy of the units is based on an experience-oriented process. that encourages self-paced independent student work The purpose of this unit is to provide edu-cational and enjoyable outdoor activities for students of all ages. The unit is divided into four sections, the first of which being concerned with seed disportal. In the second section, students invesigate foldenrod galls and the environmental influences on the wasps that hatch from them. In the next section. Audents study the succession of plant decomposition, and finally, they observe

soil organisms and study the environmental faccan be modified for use with students in all grades finformation provided includes a list of materials needed, directions; and student worksheets. (MA)

ED 106 654 SE 016 957 Suggested Activities Using the School and Its Sur coundings as a Resource for Environmental

Education. Group for Environmental Education. Philadel. ohia. Pa

Pub Date [72]

Note-12p.

MF-\$0.76 HC-\$1.58 POSTAGE

Environment, *Environmental Education In-structional Materials, Interdisciplinary Apstructional Materials. Interdisciplinary proach, Learning Activities. Metropolitan Areas, Vatural Resources, *Outdoor Educa-tion *School Location, Teaching Guides, *Urban Environment

This collection of environmental education ac-tivities fiscuses on the school and its sur-roundings. The activities reinforce the concept that the immediate school environment contains elements that are common to the similare of the while manimade environment. The activities provide ideas for using the school huilding, school grounds, and surrounding community for exploring understanding and communicating the can-ous components of the man-made environment The funde contains eight topics such as Octting to School Peopletalaterials and Products 1 and and Room Use School Building Schoolsard Sur rounding Community, Lite Support Systems, and Parallels Between the Natural and Slan-Made Enstronment. Under each topic is licted a number of corresponding activities. The activities represent an interdisciplinary approach to environmental education and include problem solving, discusuon photegraphy inquiry, and measurement (TK)

ED 196 213

SO 008 361

Allen, Rodney F , Ed Aml Others Ways to Environmental Education: Volume Itt. Florida Siale Unis , Taliahasse Coll, of Education . Tallahussee Junior Museum Fla

Pub Daie May 75 Note—150p. For related documents see ED 100
73a and SO 008 187, Pages 8 of Descloping Reading Cumpetency socion and 15 through 18 of Energy and Environment section of the original document are copyrighted and there-fore not available

ME-50.76 Price HC.S6.97 PLUS POSTAGE

*Ecology, Elementury Secondary Education, Energy, *Environmental Education, Learning Activities, *Museums *Outdoor Education Reading Improvement, Shuff Courses, Social Sciences

environmental education presented in this document are the third volume of the environmental series developed by community groups around the Tallahassee Junior Museum and its Proneer Form. The first three brooklets present an overview of the museum and of the barello sedication programs and activities offered for students at the museum and turm. Animals are discussed in detail in the next unit, developed by the Florida Auduhon Charter, Another unit fosters ereativity in environmental education while also developing human behavior. Other units present helpful hints for growing plants and herbs, and include information on environmental excursions, developing featling competency in environmental education, environmental behavioral feelings, and energy and environment learning activities for eamp and home. These materials augment those found in Volumes I and II (ED 100 734 and SO 008 187) (JR)

ED 108 874 Hendren, Travit E. Brvant, C. Dougla Suggestions and Procedures for Teaching Learning Stationa, Revised. Briant, C Douglas

North Carolina State Dept of Public Instruction.

Raleigh Pub Date Jul 74

Note-68p : Listed as Appendix F of SE 019 043. For related documents see, SE 019 042 and

MF-\$0.76 HC-\$3.32 PLUS EDRS Price POSTAGE

Descriptors - Conservation Education, *Educations! Programs. Elementary Secondary Educa-tion. Environment, "Environmental Education, "Field Instruction. "Instructional Materials. Natural Resources. "Outdoor Education... Program Planning, Recreation, Sciences, Teaching Guides

Identifiers - Learning Stations, Teaching Stations This booklet is a collection of outlines for various teaching learning stations which were developed by 21 teachers during a three-week mstitute held in 1972 at Barnardsville, North Carolina The purposes for such stations, which can be developed inespensively by students and teachers on school property, are (1) to create outdoor and environmental awareness. (2) to create outdoor recreation and environmental sensitivity, (3) to provide occupational exploration. and (4) to provide occupational training (wentynine stations are included in the booklet. Each station outline includes (1) title of the teaching. learning station (2) description of the station.
(3) rationale, (4) requisements for land, equipment, facilities, and time for development, (S) resources, and (6) Future Farmer of America and Supervised Occupational Experience uses, Stations such as a nature trail, soil profile, weather station, fish pond, and plant and insect display are included. Completing the booklet are various lists, including hists of related books, magazines and booklets, slide sources, film sources, and resource agencies (TK)

ED 108 875

SE 019 042

Hendeen, Tearre E Lent. Alan Suggestions and Procedures in Developing Nature Trails, Revised.

North Carolina State-Dept. of Public Instruction. Raleigh

Pub Date Sep 74

Note-34p. Listed as Appendia E of SE 019 043. For related documents see, SE 019 041 and 043

FORS MF-\$0.76 HC-\$1.95 PLUS

POSTAGE

Conservation Education, "Education Programs Elementary Secondary Education, Environment, "Field Instruction, Instructional Materials, "Interdisciplinary Approach. Language Arts, Natural Resources, Outdoor Education, Sciences, Social Studies,
*Teaching Guides, *Trails
identifiers—* North Carolina

Though public nature trails have been in use since the late 1800's, their use on school grounds for educational purposes is a relatively new con-The nature trail is an important tool for teaching environmental awareness and appreciation it provides experiences for observing nature firsthand with all senses employed. It is a resource that is available to the entire school and resource that is available to the entire school and is applicable to all curticulum areas. The purpose of this bookler is to provide information for teachers, administratori and students on how they may plan and develop a nature trail at their school. Locating the trail, trail construction, trail interpretation, and maintenance are covered in section 1 Section 2 focuses on art, science-math, language arts, and social stidies activities which could evolve from plassroom use of the nature trail Section 3 provides ideas and examples of trail topics such as almosth trail, historical trail, wood trail, and gooldgy trail. Examples of outdoor demonstrations and charts are also included in this section. Section 4 in a list of environmental education sources and add including associations, books, magatines, film, and resource people. The booklet concludes with a list of outstanding nature trails located in North Carolina. (Author/TK) (Author/TK)

ED 108 876 SE 019 043

Hendren, Trains E. And Others Outdoor Recreation and Applicat Ecology, Revised, North Carolina State Dept. of Public Instruction. Raleigh.

Pub Date Oct 74

Note-297p . See SE 019 041 and 042 for a

separate listing of Appendia E and F DRS Price MF.\$0.76 HC-\$14.59 EDRS Price PLUS POSTAGE

Descriptors- Career Choice. Career Educa. tion. Conservation Education. Curriculum tion. Conservation Education. Currection Guides, Environmental Education, "Instruc-tional Materials, Natural Resources, Outdoor Education, Recreation, Science Education, Education. Recreation. Science Education. Secondary Education. *Teaching Guides, Wildirie Management

This curriculum guide, offers guidelines for structuring a course which esposes the students to various environmental careers. The guide is divided into three sections. The first section offers information about such a course course description. Durpose, eredits, special or unsque aspects. physical facilities, equipment, major materials. teacher certification, and evaluation. Section two treludes 26 teaching units such as ecological systems, construction for outdoor recreation, camp management operation, and air in the environment. Each unit contains a work sheet with unit title, unit objectives, teaching sequence, unit length, prerequisites, evaluation, instruction materials, and general comments. The unit guidelines include the title of the unit, teaching objectives, content, suggested teaching-learning esperiences, suggested evaluation methods, and suggested resource materials. The third section contains six appendices. Sources of Additional Reference Materials, Regional Listing of Natural Man-Made Environmental Locations North Carolina, Films and Visual Materials, En-Yearbooks, Suggestions and Developing Nature Traits, and Sug-Procedures in Developing Nature Developing gestions and Procedures fo Teaching-Learning Stations (TK) for

ED 118 360 SE 019 784 Zuhler, John R Hoover, Norman K

Guidelines for Ptauning, Developing, Utilizing and Mainteining Outdoor Environmental Education Laboratories.

Pennsylvania State Dept of Education, Har-risburg Bureau of Vocational, Technical, and Continuing Education: Pennsylvania State Univ., University Park, Coll, of Agriculture.

Note—46p: Teacher Education Research Series.

EDRS Price MF-\$0.83 HC-\$2.06 Plus Postage Descriptors - Educational Facilities, Environmental Education, Facilities, Facility Guidelines, Guidelines, Nature Centers, "Out-door Education, "Program Development. Resource Centers

This publication is designed to provide assistance in the acquisition of facilities and program development in environmental education -The descriptive material is grouped under three headings planning the program, developing the facility, and utilizing and maintaining the outdoor laboratory. Appendices include sources of environmental education materials, educational laboratories, and conservation organizations (BP)

ED 125 852

SE 019 196

West. Jonashan M Developing Environmental Study Areas. Tennessee Valley Authority, Knosville. Pub Date Aug 74

Sale -- 19p

EDRS Price MF.\$0.83 HC.\$1.67 Plus Postage. Descriptors - Curriculum Development, Curriculum Guides, "fiducational Resources, "En-Ruences Natural Resources, Outdoor Educa-*Reference Materials, Resource Materials. LIKAN Study Centers

This publication is designed in help the teacher in developing environmental study areas. Numornus examples of study areas, including airsports, lakes, shopping centers, and zoos, are histed. A cursent definition of environmental study areas is given and guidelines for their development and identification are included. The appendit, which comprises most of the pages of the bookles contains an outdoor environmental study area inventory and evaluation form, and a sciented hibburgraphs of materials for school sites or outdoor laboratories. (MA)

ED 125 855 Cender, Tom, Ed SE 019 199

The Strends Welk. National Park Service (Dept of Interior), Washington, D.C. Pub Date [72]

Note-180

Available from ... Muir Woods .. Point Reves Natu. ral History Association, Point Reves National Seashore, Point Reves California 94956 EDRS Pelce, MF-\$0.83 HC-\$1.67 Plus Postage.

Descriptors—Curriculum Design, Ecology *Edu-cational Resources, Elementary Secondary Education, *Environmental Education *In-structional Materials, *Learning Activities, Natural Resources, *Outdoor Education. Science Education

The Strands Walk is a simple field top setivity designed to acquaint students with an unfamiliar area and with each other. The teacher's role in this activity is to help the students express what they observe, experience, and question Methods of study and concepts for emphasis are included in this publication. A major portion of the booklet is devoted to the student task forms Each task is based on one of the Strands con-cepts of the National Park Service's Environmental Education Program warsety and similarity, patterns, interaction and interdependence, continuity and change, and evolution and adaptation Three additional tasks concern problem focus. In a final section to the teacher there are behavior objectives associated with the activity and an ill. lustration of the data-theory exete (MA)

ED 129 535 RC 009 504 Cooperative Programs in Residential Outdoor En-Teacher's hlateruils vironmental Education Packet.

Marin County Superintendent of Schools, Corre Madera, Calif.

Note-28p. Not available in hard copy due to use of colored paper in original document EDRS Price NII-S0.88 Plus Postage. HC Not Available from LURS.

Description. **Actuation Elementary Secondary Education. *Environmental Education. *Outdoor Education. Program Descriptions. Records (Forms), "Residential Programs, Teacher Responsibility, Teacher Role, Teacher "Respo "Teaching Guides Identifiers - California (Marin County).

Reduced Glen Resident Outdoor School Serving as teacher inventation materials for the cooperative programs in residential outdoor edu-cation located in Marin County, California, this guide includes the following (1). This I Believe (a philosophical statement via outdoor environ-mental education) (2). Outdoor Science and ca philosophical statement via diffusion continuation education (12). Outdoor Science and Conservation Education Report 14 biref history of outdoor education, the legality of outdoor environmental education, a description of the objectivismental education, a description of the objectivismental education. tives, study areas, and activities included in the Marin County program and the historical development of the Marin program). (3) "Roles and Responsibilities of the Classroom Teacher" and responsibilities of the Classification of the perfect receives proportions, cabin grouping, pre-outdoor activities, curriculum planning, teacher participation, and classification followup), (4) "Outdoor, liducation Activity A One-Week Sequence 'cosmiplifies the war in which the outfour may be used as a learning environment and neledes educational objectives re-Mream. methods valuational objectives to stream, leadow, chaparral, tide pool, ocean, forest, and march environments). (5) "Along the Way A Route to Marin County's Resident Outdoor School" rincludes a map of the San Francisco But Area and a narrative describing major points interest in terms of their environmental histors) (6) the parental permission and health forms used by the Marin County Schools Outdoor Science and Conservation Education Program

ED 130 820 SE 019 454 Ont To Learn, Guidelines and Standards Manual for Outdoor Environmental Education. Saskatchewan Dept of Education, Regina. Pub Dare Oct 74 Note - 60p

EDRS Price MF-\$0.83 HC-\$3.50 Plus Postage, Descriptors - Camping, *Elementary Secondary Education, *Environmental *Education. Education. *Environmental *Educarion. *Guidelines. *Outdoof Education. Program Development, Resource Materials. *Teaching Identifiers- * Saskatehewan

This standards and guidelines manual, developed by the Saskatchewan Department of Education for use in the Saskatchewan schools, is designed to help teachers and school districts develop a safe and well-organized outdoor en-vironmental education program. The topics covered include Outdoor Environmental Educa-tion Implications for Students, Teacher, School Board and Community, Environmental Protection, Guidelines for Program Planning, Health and Safety, and Legal Implications. Seven appendices provide information on the tollowing Stu-deni-Teacher Resource Material Saskatchewan Regulations, Cheeklists, Sample Forms and Formats, Menus and Food Supply, Lists, First Aid and Accident Procedures, and General Informa-tion A bibliography is included (BT)

SE 020 874

Ouldoor Education - A Guide to Sile Planning and Implementation of Programs.

Tesas Education Agency, Austin Div of Curricu. lum Development

Report No.TEA.BULL.763

Pub Date 76 Note=72p.

Available from-Tesas Education Agency, Division of Curriculum Development, 201 Easewith Street Austin Texas 78701 (52 00)
FDRS Price MF-\$0.83 HC-\$3.50 Plus Postage.

Descriptors - 'Elementary Secondary Education.

'Environmental Education. 'Facilities, Institue. inif. 'Objectives. 'Outdoor Education. 'Pro. gram Development

This booklet presents guidelines for initiating, itdoor instructional programy initially, the outdoor instructional programs initially, the survival, recreation, development of personal health and well-being, career opportunities, and social adjustment. A discussion follows on the three phases of site planning. The first Phase is site analysis which involves research in topography, ecology, and land uses and control. The second phase encompasses program development which includes the statement of purpose and objectives, the role of the school aite, and analysis of these roles for program development. The final phase concerns sue design or a graphic representation combining site analysis and program development. The booklet also contains examples of school sites, a checklist for developing a program, guidelines for planning activities in all curtroular areas, suggested learning experiences in each discipline, and resource and reference lists

ED 134 408

SE 021 392

Schwartz, Jonathan R. Nature Trails for the Visually Impaired.
Syracuse Univ . N Y Environmental Studies Inst.

Pub Date 76 Note 47p.; Contains occasional light and broken

EDRS Price MF-S0 83 HC-S2.06 Plus Postage.

Descriptors.— "Educational Facilitiet. "Educa-tional Research. "Handicapped. "Nature Cen-ters. "Outdoor Education, "Visually Handica Doed

Identifiers-Nature Trails

Many interpretive nature trails have been established for the visually impaired in recent years#The objectives of the investigation were to (a) identify what has been done in the past in the way of nature trail design for the visually impaired. (b) compare this with what professional workers for the visually impaired consider impor-tant in the design of the facilities, and (c) to provide guidelines for the design of future trails for the visually impaired it was determined that the "typical" nature center was over five mics from the nearest urban center, net on public transportation lines, and provided a single special trail for the visually impaired with guide ropes and braille signs. As a result of the literature starch, the in-formal inferviews with visually impaired students, and the survey of Orientation and Mobility In-structors, the following suggestions are made for the design of future nature trails (1) No special trails should be established, as these tend to isolate the virually impaired from the rett of the visitors; (2) all trails should be clearly differentiated from the surrounding environment so that the visually imparied can use residual sight

or proper mobility techniques for travel, ropes are unnecessary and often vandalized (3) special pavement is not needed. (4) rating should be provided at hazardous areas, and a interpretation should be offered through the use of portable cassette tape players, and booklets for the hard of hearing (Author/RH)

ED 141 953

EA 009 770

Tully, Randolph R., Jr School Sites: Development and Utilization for Environmental Studies. Project KARE: A National Model for Strengthening Environmental Studies In Local Schools

Montgomery County Intermediate Unit 23, Blue Bell, Pa., Research and Information Services for Education, King of Prussia, Pa. Pub Date 1751

Note-39p., For a related document, see ED 087

EDRS Price MF-\$0.83 HC-\$2.06 Plus Postage.

Descriptors—"Activity Learning, Bibliographies, Curriculum Development, Curriculum Guides, Educational Innovation. Elementary Secondary Education, "Environmental Education, Inter disciplinary Approach, Landscaping, Needs Assessment, *Outdoor Education, *Resource sessment, *Outdoor Education, *Resource Guides, *Site Analysis, *Site Dévelopment, Student Participation, Trails

Some directions and avenues of thought are suggested to help school personnel develop sites for environmental education. In approaching the use or development of a site, important steps are (1) involving students, teachers, administrators, parents, and community representatives, (2) determining educational goals on the basis of students' needs: and (3) developing a resource list Suggestions are made of ways different disciplines can be involved with the size, emphasizing that action-oriented activities are the ones most successful with students. Three site analyses eessful with students. Three site analyses prepared for schools considering development of their properties are included to provide more detailed use and development instructions, to give an idea of the variety of usable natural sites, to suggest possible planning formats, and to Illustrate what a completed inventory and plan might look like A bibliography, a list of relevant or-ganizations, and a site analysis inventory ehecklist conclude the report, (Author/MLF)

ED 144 825

SE 023 11S

Corus, Hugh Wausau District Public Schools Outdoor Education Camp Director's Manual. Wausau District Public Schools, Wit

Pub Date [71]

Note_66p, For related document, see SE 023 114, Contains occasional light and broken type EDRS Price MF-\$0.83 HC-\$3.50 Plus Postage.

Descriptors—Camping, "Conservation Education, Elementary Education, "Environmental Education, "Instructional Materials, Learning Activities, Nature Centers, "Outdoor Education, Science Education, "Teaching Guides

This manual is a camp director's or teacher's guide to utilizing an outdoor education facility. Specifically, it details an area being studied in Wausau. Wisconsin, gives principles, objectives, and philosophy of that outdoor education proand lists responsibilities of this Program enordinator and committee. The temainder of the manual includes activities that can be modified for most locations. There is a detailed discussion of teacher responsibilities including organizational and planning activities. A sample parental permission form is included in this section. Lists of equipment needed by trachers and students are also given Activities for the elementary grade students are interdisciplinary in approach and inviside hird games, tree lists, erossword puzzles, and story problems. Students are taught we eliquette and eamping tesponsibilities. (MA)

Rusensteint, Irwin Donaldson, George W. Outdoor Education: A Guide for Planning Resident Programs, (Revision September 1977.) New York State Education Dept. Albany Hu-reau of General Education Curnellum Development

Development

Puh'Date Sep 77 Note-282p . For related document, see ED 067

EDRS Price MF-\$0.83 HC-\$4.67 Plus Postage.

Descriptors—Educational Legislation. Educational Programs. Evaluation Methods. Financial Support. Learning Activities. Organizations (Groups), "Outdoor Education, Personnet, Physical Design Needs, "Program Development, Program Evaluation, "Program Guides, "Program Planning, Quettonnaires, "Resident Camp Programs, Resourch Materialis, Sanitation, Site Selvetion, Teacher Role Identifices—"New York

tion. Site Selvetion. Teacher Role Identifiers.—New York

The culmination of educational esperiences in the outdoors is the resident outdoor education program Involving teachers and pupils living and learning, in the natural environment, the program emphasizes the development of human values and provides students with tearning opportunities that focus on direct, real, and relevant experiences intended to provide school district administrators and teachers with guidance and direction in planning and conducting resident programs, this guide presents basic policies and procedures essential to the success of resident outdoor education experiences. The guide discusses methods for planning and financing the program, selection of the site and facilities, program personnel-resident director, program specialist, instructional personnel. cook, doctor, nurse, maintenance staff, and secretary, the classified organizations, printed resources, audiovisual ands, and program equipment. Activities to be jused in the program equipment. Activities to be jused in the program are issed along with suggested evaluative techniques. Appended are the New York State Education Law, the New York State Sanitary Code, evaluation forms, and a list of 21 resident outdoor education centers in New York State (NO).

ED 152 498 SE 023 222 Environmental Education in Action: An SCS Environmental Quality Ald.
Soil Convervation Service (DOA), Washington.

D.C

Pub Date 73

Pub Date 73
Note—24p., Reprinted flom "Soil Conservation Magazine," For related document, see SE 023 778, Photographs may dot reproduce well EDRS Price MF-\$0.83 HC-\$1.67 Plus Postage, Descriptors—*Conservation Education, Curriculum Development, Educational Parks. "Educational Programs, *Elementary Secondary Education, Environmental Education, Education, Environmental Education, Education, Environmental Education, Education, Environmental Education, Educ ry Education. Environmental Education.

*Outdoor Education. *Program Development.
School Location. Teacher Certification
Identifiers—*Soil Conservation Service

This first of a series of reprints from "Soil Con-

servation Magazine" presenta ideas and ways of incorporating environmental and outdoor education into school programs at all levels. This publication contains 10 such reprints. The tules of the articles are: (1) Conservation Education - It Lasts a Lifetime. (2) Through an Open Door; (3) En-vironmental Education Homehrew Style, 14) Conservation Campus. 15) Selecting Suitable Sites for Schools. (6) Outdoor Classroom Helps Revive Indian Traditions, (7) Conservation + Plan for All Seasons, (X) Walk-Lp-and-Kick-Um, (19) Espenences Unlimited, and (10) Education that Cannot Wait Many of these articles are summancs of estiting outdoor education pro-grams and how they were developed. One article in Varticular discusses teacher certification in conservation outdoor education as proposed in Indiana (MR)

ED 152 499 SE 023 778
Environmental Education In Action, II; An SCS
Tentfronmental Quality Aid,
Soil Conservation Service (DOA), Washington,
O C

Pub Date 75

Note 25pJ Reprinted fmm "Soil Conservation Magazine", For related document, see \$4,023,777, Photography may other reproduce to the conservation to 777. Photographs may für reproduce well EDRS Price 815 \$0.83 iTC-\$1.67 Plus Postage.

Descriptors -- Adult Education, *Consentation Curriculum Development. ducation. Educational Programs, Elementary Secondary Education. Environmental Education. Es-périential Leaming. Highet Education. *Quiding Education. *Program Development. *School Location Identifiers - *Soil Conservation Service

This second of a series of reprints from "Soil Conservation Magazine" presents ideas and ways of incorposating environmental and outdoor education into school programs at all levels. This

ED 156 529 SE 024 568 Baldi, Mary Lou Eavier Environmental Living Program. Book 1: What's

Happening.
National Paris Service (Dept of Interior).
Washington, D C
Pub Date (77)

Nota—28p. For related documents, see SE 024
S69-57l. Not available in hard copy due to
marginal legibility of original document Available from -Superinsendens of Documents,

U.S. Government Printing Office, Washington, D.C. 20402 (Stock Number 024-005-00617.6; No price quated) EDRS Price MF-\$0.83 Plus Postage, HC Not

Available from EDRS.

Descriptors. Educational Parks, "Elementary Secondary Education, "Environmental Education, "Field Trips, "History, Dutdoor Education, Parks, "Program Descriptions, Science Education, Social Sciences

Identifiers-Arizona, California, "National Parks This booklet documents, in wordt and pictures. the Environmental Living Program This program. which has been in operation since 1969, provides overnight living experiences for elementary and secondary school students at cultural, historic, or prehistorie sites. The sites are National and State parks and private sites in Calsfornia and Arizona Some examples of the activities shown in this bookles are a second geade class baking bread. making costumes, and studying daily talka in an 1885 log cabin in Utahl eighth grade students recreating a day in a ninetecoth century school house in Arizona, and a shifth grade class apending the night aboard a lumber schooner on San' Francisco Bay (BB)

ED 156 330 SE 024 569 Balds, Mary Lou Environmental Living Program, Book 2: Geiting

National Park Service (Dept of Intertor).
Washington, D.C.

Pub Date [77] Note-33p. For related documents, see SE 024 \$68-571. Not available in hard copy due to

marginal legibility of original document . Available from-Superintendent of Documents. U.S Government Prinsing Office, Washington, D.C. 20402 (Stock Number 024-005-00617.6. No price quoted)

EDRS Price MF.SO.83 Plan Postage, HC Not Available from EDRS.

Descriptors—Educational Parks. *Elementary Secondary Education, *Environmental Education, Field Trips History, Outdoor Education, Parks, *Program Descriptions, Serence Education, Social Secondes

This is the second of four booklets describing the Environmental Living Program. This program, which has been in operation since 1969, provides overnight living experiences for elementary and secondary school students at cultural, historic, or prehistoric sites throughout the West This bookles describes, in the words of the teachers and students, the activities and preparations that precede the selval live in These activities include exploration, tescarch, rule-playing, and building motivation and responsibility (881

ED 156 531 Bolds, Mary Line Environmental Living Program, Book 3: White In Charge?

ational Park Service (Dept of Interior), Washington, D.C.

Pub Date 1771 Note-28p, For related documents, see SE 024

568,531. Photographs may not reproduce well Available from Superintendent of Documents.
US Government Printing Office, Warhington,
DC 20402 (Stock Number 024-005-00617-6.

D C 20402 I terona Nor price quoted) EIIRS Price MF-50-83 HC-52-06 Plur Postage. Descriptors-Educational Parks. *Elementary Secondary Education. *Environmental Education. secondry Education. "Invitation and account of the control of the

Environmental Living Program. This program, which has been in operation since 1969, provides evernight living experiences for elementary and secondary school students at cultural, historic, or prehistoric sites throughout the West This prenitions: little misognost the west into booklet discusses such questions as How do the teachers prepare for the five-in espenences? What practical or organizational concerns must be taken care of? What age level or subjects is the program appropriate for? And who will provide cultural and environmental data, loan items, or help with streetings? (PDI) or help with supervision? (BB)

ED 156 \$32 SE D24 571 Baldi, Mary Lou Environmental Living Program, Book 4: Have We cvational Park Service (Dept of Interior),
Washington, D.C.
Pub Date [77]
Note—20-

Note=20p. For related documents, see SE 024 568-571. Photographs may not reproduce well. Available from-Superintendent of Documents. U.S. Government Printing Office, Washington, D.C. 20402 (Stock Number 024-095-00617-6.

No price quoted)

EDRS Price MF-S0.83 HC-S1.67 (DE Postage. Postag Descriptors Educational Parks Elementary Secondary Education. Environmental Education, *Field Trips, History, Outdoor Education. Parks. *Program Descriptions, Science Educa-tion, Social Sciences Identifiers... *National Parks

This is the fourth of four booklets describing the Environmental Living Program. This program, which has been in operation since 1969, provides Overnight living experiences (or elementary and secondary school students at cultural, historic, or prehistoric sites in California and Arizona. This booklet addresses practical maiters such as cost. equipment needs, how to evaluate the program. transportation, liability, and emergency needs to addition, a sample list of sites that have programs, a bibliography, and a check list are given

ED 157 666 RC 010 642 Chapman, E. Wayne, Comp. Waters, Robett E. Camp

Teacher's Manual for Dutdoor Classrooms -How to Plan, Develop, and t se Them. Soil Conservation Service (DOA), Auburn, Ala Pub Date (73)

Note-65p. Not available in paper copy due to marginal legibility of original document EDRS Price MF-S0,83 Plus Postage. HC hot

Available from EDRS.
Descriptors... *Activities, Agency Role, Art. Community Cooperation, *Conservation Education, Curriculum Development, Educational Resources, Elementary Secondary Education, *Edoc+tional Health Education, Illustrations, Instructional Materials, Journalism, Language Arts, Mathematics, Music, "Outdoor Education, Physical Education, Planning, Safety Education, Science

Education, Social Studies, *Teaching Guides
Identifiers—Soil Conservation Service

Using experience gained while helping elemen. tary, justior high, and high school teachers plan. develop, and use thousands of outdoor class; rooms, the Alabama Soil Conservation Service (SCS) produced this teacher's manual forcept-door classrooms. Emphasis is on conservation education and the environment and man's relationship to is Rasionale for developing an outdoor elastroom, preferably as an integral part of the school site, meludes training in environmen. tal responsibility, expanded (earning opportunities for all students, real learning experiences, effective means of seaching conservation. The manual suggests how SCS can help the teacher and out-. lines steps for beginning an outdoor classroom (including community cooperation, common pit-

frits, and 46 specific featurer that could be incorpointed) Activities listed describe how his out door classroom may be used in science (animals, aguatic rtudier, chemistry, ecology, home aguate reducer, encounter, ecology, nome economics, geology and soils, plants, vocational agreeiture, weather I, mathematics, social reducer, language arts, art, music, shop, P.E., health and safety, journalism, clubs. The appendis contains a glossary, a list of basic visual and written references and organizations providing free or inespensive materials, and illustrated teaching rids on the tree, roots and rings, grass and grasshop-pers, monarch butterfly, use of the microscope, and bird feeders. (RS)

ED 157 770 SE 924 772 Interpreter's Guide to Blackbird Marsh hattere Trail.

Environmental Studies Center, Pensacola, Fla. Spora Agency - Florida Siste Debt of Education.

Tallahassee. Office of Environment Education. Pub Date 74

-21p. EDRS Price MF-S0.83 HC-S2.06 Plus Postige. Sciences, Ecology, Education, Education, EDRS Price mirroviol Scient Description— Biological Scient VETamentary Secondary *Environmental Education. Vinstructional Materials, Decanology, "Outdoor" Education, Science Education, Teaching

This bookset was Prepared to help the user in-terpret the natural history of Blackbird March Nature Trail in Escambia County, Florida, and serves as a guide to the enimal and plant life. The publication is part of a series of illustrated guider designed for use by teachers and students of all levels sn conjunction with field trips to the 1200. acre Gulf Islands National Seashore, nie of the nature trail, as well as other foci of environmental interest. (Author/RH)

ED 158 930 RC 01D 687 Guidelines for Dut-of-School Experiences, Queen's Univ. Kingston (Ontario) Science Resource Centre Pub Date [73]

EDRS Price MF.So.83 HC-St.67 Plut Postage.

Descriptors—Athleties, "Elementary, SecondaryEducation, Field Experience Programs, "Field
Tripa, Financial Support, "Guidelines,"

"Outdoor Education, Publicate, Safety, "School Policy. Student Transportation, Swimming. Teacher Responsibility Supervision.

As a phechanism by which policy for oul-of-school experiences is carried out, these guidelines developed for Bruce County Schools. Canada, in 1972.73 are intended to insure pupil safety and set forth teacher responsibility during educational outlings and excursions for students of all devels. Included are administrative procedures for obtaining school approval for a variety of experiences. from walking trips in the neighborhood to overnight trips, and seacher responsibility for appervision and safety, encompassing planning. parent notification, first aid, minimum supervision catios for different ages and kinds of trips, and requirements for water safety, Canoning, use of boats for field studies in science of geography, and other special skills or safety precautions. Under transportation, guidelines cover use of cegular school vehicles, watereraft and airceaft, and automobiles Responsibilities of volunteer drivers are briefly outlined. along with how outof school programs should be financed and what public relations efforts can be made both toward parents and the community at large. Appendices contain some direction for emergency situations, aecident procedures, execepts from the 1972 Public Health Act desling with lifeguards, aquatic instructors, and water safety assistants, and the following forms: information letter to parents; permission letters, medical treatment consents (RS)

ED 160 281 RC 010 777 2 Mouhews Brute And Others
Himer Outdoor Education Activities: Anima Track Identification. Conford Madisian Board of Cooperative Education Conford Madisian Board of Cooperative Educational Service, Confland, N. P. Pub Dare. 19 Dec. 75.
Nuc. 240, Best copy available.
Available from Cuttland BOCES Collabore.
Environmental Ed. Program Mesoy Educational Center, Confland New York 13045 (51 00).

17

EDRS Price MF-80.83 HC-\$1.67 Plus Postage.
Descriptors—* Activities. * Animal Behavior. Art.
Elementary Secondary Education. Health. *Interdisciplinary Approach Language Arts *Lesson
Plans. Mathematics. *Outdoor Education. *Reace Materials, Seiences Social Studies

Designed for elementary and perhaps junior high school students, this activities-animal-tracks packet is a multi-disciplinary educational lesson which provides students with an opportunity for learning through "self discovery". Comprised of narrative and illustrative directions and suggestions, the activities described here include the following suggested pre-trip activities for social studies, physical education, health mathematies, science, language arts, and are a metric measurement sheet, a modified key to common winter animal tracks in Cort-land County, New York (includes 12 illustrations and descriptions) a pre-trip onentation plan (in-cludes a discussion of animal tracks in terms of on, whether he was fightened running, or walking, etc., a sorve) form for recording animal tracks, and a discussion of proper clothing) a lesson involving Offentation-acclimatization activities and the actual survey of animal tracks post-trip activities in social studies, mathematics, language arts. Science, and arı. (JC)

ED 160 283 RC 010 780 Matthews, Bruce Smith, Joseph

Matthews, Brace Smith, Joseph The Cemetery: An Outdoor Education Unit. Cottland-Madison Board of Cooperative Educa-tional Services, Cortland, N.Y. Pub Date—13 Nov 75

Note—22p. Not available in hard copy due to mar-ginal legibility of original document

vailable from—Cortland Madison BOCES Outdoor-Environmental Ed Program, McEyoy Educational Center, Cortland, New York 13045

EDRS Price MF-50.83 Plus Postage, HC Not Available from EDRS.

Available from EDNA.

Descriptors—*Activities. Art. Community Resources. Elementary Secondary Education. *Interdisciplinarly Approach. Language Arts. *Lesson Plans. *Local History. *Mathematics. *Condoor Education. *Resource Materials. Sciences, Social Studies, Surveys Identifiers—"Cemeteries

Utilizing the local cemetery as a resource for the study of local history this outdoor education re-source packet is multidisciplinary and is designed to be adapted to different age and class groups. The resource materials presented in this packet include the following suggestions for pre-trip acts, ties (50-eral studies and history discussions, language arts and vocabulary development, science and decom-position discussion health and burial requirements. art and stone Sculpture, mathematics and birth and death figures) an outline describing activity orientation procedures (definition of a cemetery, discussion of what information can be found there. ementation to the use of a survey form for recording inscriptions, dates, etc. and discussion of rubbing procedures), the actual cemetery Jesson (presented in outline form this includes sections on arrival and instructions, the survey and rubbing a sample survey form a sample tally sheet designed to tally the survey forms and thus identify community historical patterns (nationality, sev marriage, death and birth dates, age at death, cause of death, veteran, occupation, and type of stone in tombstone). suggestions for post-trip lesson activities (activities defined from examining the fally sheet and activities social studies mathematics language arts. science and art) and teacher tips and time distribu-tion suggestions. (JC)

ED 160 285 RC 010 782

Matthews, Bruce And Others A. Gulde for Conducting Outdoor Field Experi-

Cortland Madison Board of Cooperative Educa-tional Services, Cortland, N Y Pub Date Feb 78 Note—30py, Available from—Cortland-Madison B.O.C.E.S

Outdoor-En-ironmental Ed Program, VicEvoy Educational Center, Curtland, New York 13045

Descriptors *Acrostics. Ofscorery Leating. Educational Philosophy. Encironmental Education. Espectential Learning. *Field Instruction. Field Tribs. Games. Interdisciplinary Approach.

Planning. *Outdoor Education. Materials, Sensory Experience, Teacher Improvement, *Teaching Guides, *Teaching Techniques Identifiers—*Strand Approach to Environmental

Since research indicates teachers generally lack conflidence in their ability to conduct lessons in the outdoors and feel inadequate regarding knowledge of the natural world, this guide has been developed to build teacher confidence in utilizing the outdoors Designed to be used in conjunction with a Prac-Hour workshop, this guide presents techniques which can be demonstrated and practiced in a workshop attaction. The following are addressed, philo-sophical background of outdoor education, educational assumptions (learning by doing, use of all senses, main idual and unique ways of learning. learning by association, the importance of needing to learn, self discovery learning, group dynamics emphasis), the strand approach to environmental education (interdisciplinary learning incorporating education (interastrument teaming incorporating dependence, continuity shange, and adaptation-revolution), sensory approach (use of all senses), planning field trips (pre-trip preparation, post-trip preparation, post-trip evaluation, check lists, etc.), activities (strand approach illustrated via activities for each of the five strands listed above, sensory approach activities. discovery approach activities, acclimatizing activi-ties, and miscellaneous activities). Among the many activities listed are the following empathizing with natural phenomena-role playing a tree, prickly-tickly (find something that prickles and something that tickles); the food chain game, a bug's eye view (how the world looks to a bug) (JC)

ED 160 286

RC 010 783

Matthews, Bruce And Others
Plant Galls and Ecological Concepts: A Multidiselplinary Outdoor Education Teaching Resource Packet.

Packet.
Cortland-Madison Board of Cooperative Educational Services, Cortland, N.Y.
Pub Date—Dec 77
Note—37p.: Best copy available
Available from—Cortland B.O.C.E.S. Outdoor-Environmental Ed. Program, McEvoy, Educational.Center, Cortland, New York, 13045 (\$1.00)
EDRS Price MP-50.83 HC-52.06 Plus Postage.
Descriptors—"Activities, "Butany, Concept Formation, Definitions of Ecology, Elementary Secondary Education, Illustrations, Interdisciplinary Approach, Language Arts "Lesson Plans, 2015, door Education, Plant Identification, "Resource Materials, Sciences, Special Studies Materials, Sciences, Social Studies

Designed for adaptation in primary through high school classes, the lessons in this resource packet use the development of plant gails tplant growths caused by itertation of the plant insue) as a fixus for outdoor education studies and activities Emphasis is on science and ecology, though other disciplines are represented. Illustrations and narratives present the following a definitive statement on galls thistorical considerations, function, importance, etc.). an illustrated narrative discussing the different types of galls, a narrative on ecological relationships (addresses the following concepts as demonstrated by study of galls ecosystems operate as a whole unit and all things are interrelated, intercunnected and interact with other living and non-living things, all living things need air, sunlight, water, and nutrients. all living things need and use energy, and energy is constantly produced and itest through organism maintenance and trophic exchanges, movement of matter provides connections and exchanges of matters between exists stems, pre-triplesson ideas for science, language arts and social Studies thy lesson plan for studying galls (presented in nutline form, this includes objectives, what is a gall cuiting a gall open, discussing the benefits of a gall for man. gall maker, etc.), interrelated ness and interdependgain make; by interfect and and interfect flow concepts and the gain story, etc., post-trip follow-up suggestions. gall crafts (mobiles, jewelry, etc.), cross-word puzzle: a fact sheet, and a glissary (JC)

ED 164 192 Hurst, Donald L. RC 011 016

A Cemetery Study. Pub Date -77

Pub Date—77
Note—15p: Srudy guide prepared by Norfolk
County Outdoor Education, Langton (Ontatio)
EDRS Price MF.50.83 (IC-51.67 Plua Postage,
Descriptors—*Activities, Art. *Curriculum Guides,
Elementary Secondary Education, Geology, *Interretain formation of the Property Arts. Local terdisciplinary Approach, Language Arts, Local History, Mathematics, *Outdoor Education, Val-ues, *Worksheets Identifiers—*Cemeteries

Employing an interdisciplinary approach, this outdoor education guide to the study of cemeteres is designed for older elementary and younger se-condary students. Suggestions are provided for ac-uvities involving the study of history, geology. mathematics, art, language arts, and values For ex-ample, the cemetery markers lend themselves to art activities involving the study of lettering styles, stone sculpture, and shape and design, likewise, the shapes of the various tombstones can inspire mathematical measurement activities. Specific projects for outdoor cemetery activities are outlined via worksheets. Among the worksheets provided are the following, making a map worksheet of the cemetery, a local history documentation worksheet (name of deceased, country, year of death year of birth, age at death, etc.), a geology worksheet (examination of the materials used for markers and the date at which e.given material was most popular), e math measurement worksheet, requiring diagrams explaining how a given marker was measured, a second math measurement worksheet focusing on the size of the total cemetery and the cost of Plots, an art worksheet focusing on the designs found on tombstones and requiring sketches of such designs; a language arts worksheet focusing upon the language inscribed upon the to missiones and its present equivalent. Supplementary resources are suggested.

ED 165 970 RC 011 155 Environmental Education Inservice Packet for the Intermediate Level,

Upper Mississippi River ECO-Center, Thomson, Bl. Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE), Washington, D.C.; Illinois State Dept. of Education, Springfield. Prih Data---75

Note—126p; Not available in hard copy due to marginal legibility

Available from—Upper Mississippi River ECO-Center, Thomson, Illinois 61285 (\$3.50)

EDRS Price MF-S0.83 Plus Postage. HC Not

EDRS Price MF-S0.83 Plus Postage. HC Not Available from EDRS.
Descriptors-4° Activities, Class Activities, Curriculum Development, Educational Games, Educational Objectives, "Environmental Education, "Experiential Learning, Faculty Development, Field Trips, Group Experience," Inservice Programs, "Inservice Teaching, Instructional Materials, Interdisciplinary Approach, Intermediate Grades, "Outdoor Education, Perception, Staff or Improvement, "Telliang Guides, Values
Identifiers—Elementary Secondary Education Act Title III, "Upper, Mississippi River ECO Center The inservice teacher training packet, developed

The inservice teacher training packet, developed with help from the environmental education program of the Upper Mississippi River ECO-Center, is designed to help intermediate-level teachers develop teaching skills which will enable them to introduce environmental or outdoor education to their students and develop those concepts, situities, and behavioral skills which lead to environmental responsibility. Reflecting the need for environment talization on many instructional levels, the flexible one or two day program includes sections which focus on environmental awareness, classroom activities, school site servities, field trips, and com-munity resources. The many activities in these sections can be adapted for class use with little or no change, and the activity descriptions usually include objectives, instructional levels, and materials lests. The interdisciplinary approach involves group and individual activities auch as tole playing, values clarification, games, home and school environmental surveys, career visits, art projects, science pro-jects, and environmental observation. The packet also includes a sample inservice program schedule, a section on developing an environmental education program, referènces, equipment lists, field trip materials, resources, and an awareness test. (SB)

ED 165 974 RC 011 159 Schaljo, Roger, Comp. 101 Environmental Education Activities. Booklet

3-Mathematics Activities. Upper Mississippi River ECO-Center. Thomson, Ill. Spons Agency—Bureau of Elementary and Second-

Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE), Washington, D.C. Pub Date→77 Note—34p.; Best copy available Available from—Upper Missusippi River ECO-

41

Center, Thomson, Illinois 61285 (\$1.00) RDRS Price MF-50.83 HC-52.06 Plus Postage

EDRS Price MF-S0.83 HC-S2.06 Plas Postage.
Descriptors—"Activities, Cartography, Curriculum
Enrichment. "Curriculum Guides, Educational
Games, Educational Objectives. "Elementary
Secondary Education, "Environmental Education, Evaluation Criteria, Experiential Learning,
Instructional Materials, Maps, Mathematical Appilications, Mathematical Concepts, Mathematics
Education, "Mathematics Instruction, Mathematics Materials Maps. ematics Materials, Metric System, *Outdoor Eduestina

Compass Activities, Elementary ondary Education Act Title III, "Upper Missis-sippi River BCO Center

apps River ECO Center

Bach of the 14 environment-related mathematics
activities included in this publication by the Upper
Mississippi River ECO-Center includes objectives,
materials needed, preparation, and activity description. Occasionally, variations and belpful hims are
added. Because the student can gain experience to
help him with the practical application of abstract concepts by shedying mathematics outdoors, special emphasis is given to the experiential study of metrics and the magnetic compass. The overall focus of the activities is on the use of mathematics in real life situations. Metrics activities include body measurements, pacing and measuring distances, and estimating heights. Compass activities include an introduction to the use of the magnetic compageometric figures, an introduction to mapping, constructing/teaching mapping courses, and games. In ddition there are poliution, energy, and nature studies. The activities are designed to enhance elemen-tary and junior high school students' awareness of mathematics found in nature, such as geometric shapes, and to teach metrics, the compass, and ap-plied mathematics. This is the third in the series of environmental activities booklets by the ECO-Center, and is also related to their inservice Teaching Manual for environmental education, (SB)

RC 011 160

Whitney, Helen, Comp. 101 Environmental Education Activities, Booklet 4-Science Activities.

Upper Mississippi River BCO-Center, Thomson, Ili.
Spons Agency—Bureau of Elementary and Second—
ary Education (DHEW/OE), Washington, D.C.

Pub Date—75
Note—89p.; Best copy available
Available from—Upper Mississippi River ECOCenter. Thomson, illinois 61285 (51.50)
EDRS Price MF-S0.83 HC-S4.67 Plus Postage.
Descriptors—Climatic Factors, Conservation (Environment), Curriculum Enrichment, *Curriculum Guides, Ecology, Educational Objectives, *Elementary Secondary Education, Energy, *Environmental-Education, Evaluation Criteria, *Experiential Learning, Field Trips, *Instructional Materials, *Outdoor Education, Plant Identification, Science, Course Imtion, Science Activities, Science Course im-provement Project, Science Experiments, Science Instruction, Sensory Experience, Soil

Identifiers—Elementary Secondary Education Act
Title III, "Upper Mississippi River BCO Center
Fourth in the series" 101 Environmental Education Activities" by the Upper Mississippi River ECO-Center, the booklet contains 39 environments based science activities directed to students in priintermediate, and juntor high classes. Organization of the activities usually includes grade level, objectives, procedures, and materials, evaluation criteria, and sometimes includes hints and follow-up activities as well. In general, emphasis is placed on learning about soils; weather: various life forms; ecological and environmental relationships; conservation, natural phenomena; and on enhance ing the students' powers of observation, sensory awareness, and awareness of environmental problems. Activities include science and energy autveys. weather observations and predictions, soil study and analysis, tree study, plant and animal observations, and specimen collection. Field trips to forest, timber, marsh, and fiver areas, as well as new bousing developments and waste disposal plants help students examine many aspects of their environ from the point of view of various sciences. (SB)

ED 165 976

Whitney, Helen, Comp.

101 Environmental Education Activities, Bookiet
5-Science & Social Studies (Interdisciplinary)

Activities. Upper Mississippi River ECO-Center, Thomson, III.

Spons Agency—Bureau of Elementary and Second-ary Education (DHEW/OE), Washington, D.C. Pub Date—75 -Bureau of Elementary and Second-

Note—23p.; Best copy available
Available from—Upper Mississippi River ECOCenter, Thomson, illinois 61285 (51.00)
EDRS Price MF-80.83 HC-\$1.67 Plus Postage.

-Curnculum Enrichment. neulum Guides Educational Objectives, Elemen-tary Secondary Education, Environmental riculum Guides, Educational Objectives, Elementary Secondary Education, "Environmental Education, Evaluation Criteria, Experiential Learning, Field Trips, "Forestry, Instructional Materials, Interdisciplinary Approach, Intermediate Grades, "Outdoor Education, Plant Idensifiate Grades, "Outdoor Education, Plant Idensifiate Grades," cation, "Science Activities, Science Instruction, Sensory Experience, "Social Studies, Writing Identifiers—Cemeteries, Elementary Secondary Education Act Title III, "Upper Mississippi River

ECO Center

Forestry is the main focus of this fifth booklet in the series "101 Environmental Education Activi-ties" by the Upper Mississippi River ECO-Center. Designed for students in the intermediate grades and jumor high school, the booklet contains 9 science and social studies activities and 5 interdisciplinary activities. Most activity descriptions include the objectives, preparation, description, evaluation, materials, follow-up, re-plans, and reference sources when appropriate for the activities. Eight science and social studies activities are directed to the study of forests: the kinds and location; the national forests and parks system; fire causes, prevention, and ests and parks system; this causes, prevention, and fighting; tree identification; growth and uses; forest products and the lumber industry; wildlife; and tree ring time lines and the intelligence to the weather. There is also an activity of the ramines the relationship of the farm to the accomony. The 5 interdusciplinary activities and 4 field trips or hikes, 1 of which teaches the historical and resource value of cometeries. These activities are designed to increase the atudents' powers of observation, sensory awareness, sense of sestherics, and mining

ED 165 977

RC 011 162

Whitney, Helen, Comp.

101 Environmental Education Activities. Bookiet

6-Social Studies Activities. Upper Mississippi River ECO-Center, Thomson, Ill. Spons Agency—Bureau of Elementary and Second-ary Education (DHEW/OE), Washington, D.C. Pub Date—75 Note—27p.; Best copy available

Note—27p.; Best copy available
Available from—Upper Mississippi River ECOCenter. Thomson, Illinois 61285 (51.00)
EDRS Price MF-\$0.33 HC-\$2.06 Pina Poetage.
Descriptors—Activities., *Community Study, Curriculum Enrichment, *Curriculum Guides, Educational Objectives, Elementary Secondary
Education, *Environmental Education, Evaluation Criteria, Esperiential Learning, Field Tripa,
Instructional Materials, Intermediate Grades, Interviews, Local History, *Outdoor Education,
*Social Studies, Surveys
Identificirs—Elementary Secondary Education Act
Title III, *Upper Mississippi River ECO Center
Based on the environment and directed at elementary and intermediate level students, 5 field
trips are a significant part of the 12 social studies

trips are a significant part of the 12 social studies activities in the sixth booklet by the Upper Missis-sipps River ECO-Center outlining environmental and outdoor education activities. Most of the activines include objectives, settivity description, evaluation, grade level, and one activity provides a resource list and bibliography. Guide sheets are Provided for survey activities based upon visits with city businesses, a school site, recreational areas, community citizens and a field trip site. Activities are designed to help students learn the difference between man-made and natural areas, the effect of recreational areas on the environment, techniques of observation, and the attitudes of their fellow students and themselves regarding the environment. Also included are writing activities based on the Auso included are writing activated obsect on the history of a field trip area and on pioneer living; these activities are designed to promote learning about the early settlers and their daily lives, the use of reference books, report writing, note taking, aummarizing, and the value of local historical records.

ED 170 101 RC 011 328 And Others

Snyder, Glenn Environmental Education: River Policy and ProceSpons Agency-Jefferson County School District . R-I. Lakewood, Colo ub Date—Nov 75 Pub Date

Note—77P.
Pub Type— Guides · Classicom · Teacher (052)
EDRS Price · MF01/PC04/Plus Postage.

Descriptors-Elementary Secondary Education.
*Environmental Education, Equipment Maintenance. Equipment Standards, Experiential Learning, Facility Inventory, Field Instruction, *Field Trips, Learning Activities, Objectives, *Outdoor Education, *Policy, *Responsibility, Safety, Sanitation. Secondary School Teachers. *Teaching Procedures

Identifiers-Colorado (Jefferson County), River

Accurate as of October 1975, the guidebook esta-blishes detailed procedures and policies to be used by all persons engaged in white water rafting trips involving students from Jefferson County (Colorado) Public Schools, and provides a general guide and set of instructions for anyone planning and earrying our such a trip. The guidelines are drawn from the latest state and federal information available, from the Colorado Outward Bound School, and from the knowledge of many expenenced river raiting supervisors. The guidebook provides secondary school staff members who sponsor river rafting activities with minimum safety and sanitation standards (safety restrictions, first aid treatment, emergency procedures, hand and dish washing, food and drinking water preparation and storage, waste disposal) information and checklists reflarding the kind, use, and care of all required equipment are included. The book presents full instructions for five suggested environmental activities, a sample activity timetable for a 5-day trip, and instructional sequences for teaching rafting skills.

Organizational material includes a preparatory checklist and time schedule, staff criteria, sample menus, a reading and reference list, and detailed information about the condition of several Colorado rivers and their environments. (SB)

ED 170 896 EA 011 657

Douglas, Rande McCann, Karen, Comp. Project Ranger Adopter's Guide, 1979, Portland Public Schools, Ores

Spons Agency-Office of Education (DHEW). Washington, D.C., Oregon State Dept. of Education. Salem. Pub Date-79

Note—113p. Chart A-11 may be marginally legible due to small print

ub Type— Guides · Non-Classroom (055) — Tests Questionnaires (160) — Reports · Descriptive (141)

EDRS Price • MF01/PC05 Plua Postage.
Descriptors—• Behavior Problems. Classroom
Guidance Programs. • Counseling Instructional Programs, Elementary School Students, Element tary Secondary Education, Environmental Edu-eation, *Intervention, *Outdoor Education Identifiers—Portland Public Schools OR, *Project

Project Ranger is a program providing a combination of elassroom study, outdoor survival, and envitonmental education to students having difficulty adapting to structured learning. The program has three unique features. It tries to reach younget children than most programs for "refuetant learners", it provides affective counseling organized around atrenuous physical activity, and it operates as a supplement to classroom instruction, involving the elassroom teacher and avoiding the stigma often associated with removal of the student from the vlassroom Goals of Project Ranger include improving negative student behavior, improving student self concept, providing students with skills to enhance adult and peer relationships, motivating academic improvements, and providing students opportunities to develop leadership skills. Having served 120 students per year for four years at the elementary level, the program is now being considered for older students as well. This document addresses those considering adoption of the Program, and covers planning (process objectives and tasks. management structure design, budgeting, and facility and transportation requirements); implementation (process objectives and tasks, and orientation materials), staffing (hiring procedures, staff Qualifications, and inservice materials), student selection; and project evaluation methods. Appendices include Job descriptions, sample eurriculum outlines, student referral and selection forms, and project evaluation forms (Author: PGD)

RC 011 380 Jones. Ornile E. Ed Swan. Malcolm D. Ed.
A Model for Introducing Environmental Quality
Education into a School Curriculum. Taft Campus Occasional Paper No. VII.
Northern Illinois L. . Oregon, Laredo Taft Field
Campus. Dept. c. Audoor Teacher Education.

Pub Date-72 -45p.

Pub Type--- Re Papers (120) - Reports - Descriptive (121) -- Opinion

Papets (120)
EDRS Price - MF01/PC02 Plus Postage.
Descriptors - "Cutteen Participation. Community
Cooperation. Community Support, "Curriculum
Development, Educational Quality, Elementary
Secondary Education. "Environmental Education, Higner Education. "Instructional Programs,
Counteder Education. Pages Pages Pages 1999. *Outdoor Education, Parent Participation, Parent Teacher Cooperation, Public Schools, Recycling, Relevance (Education). Student Participation.

Student Projects
Identifiers—Glencoe Environmental Education
Curriculum "Illinois (DuPage County), Parent

Teacher Association

At a meeting in DuPage County, Illinois, in April 1972, speakers representing the PTA, students, sehool teachers and administrators, outdoor, education, the Illinois School Boards Association, and the Open Lands Project voiced enthusiastic support for introducing environmental education into the school curriculum. One of the County's several college, secondary and elementary tevel environmen-tal programs described in the meeting, the Glencoe (Illinois) Encironmental Education Curneulum was designed to develop environmental consciousness and social responsibility through an integrated eurneulum approach for grades K-8. The program's initial auccess was parily due to the fact that it involved all sectors of the community in its activities which included the establishment and maintenance of a glass recycling center largely the work of stu-gents and the PTA Speakers advocated such eitizen participation in emironmental education 25 well 25 the reassessment of educational priorities to make education accountable to an environmentally re-sponsible society (SB)

RC 011 395 ED 171 475

Vandenhazel, Bessel J. Urban Studies Workshop. Shopping Centre Study.
Rockfort, Illinois.

Nipissing Coll., North Bay, Ontario.; Northern Il-linois Umv., De Kalb

Pub Date-Apr 77

Pub Date—Apr //
Note—12p
Pub Type— Guides - Non. Classroom (055)
EDRS Price - MF01/PC01 Plus Postage,
Descriptors—Concept Formation. Educational Objectives. Educational Strategies. Elementary Secondary Education. 'Environmental Education.
Experiential Learning. 'Freid Instruction, Field Trips, Instructional Trips. 'Interdisciplinary Approach.' Il caroning. Acquires. 'Outdoor Education. proach. "Learning Aenvities, "Outdoor Educa-tion. Science Instruction, Site Selection, Urban Areas. "Lrban Studies Identifiers.—"Shopping Centers

The urban environment itself can be a laboratory for learning, and the learning activities in this workbook utilitie the shopping center as a study site. General objectives of this unit of study are (1) to overtigate how shopping centers serie the community. (2) to integrate a number of curriculum skills and concepts, and (3) to investigate the environmental impact of large shopping centers and malls Suggested exercises for elementary and secondary school students include work in mapping and sketching, graphing and tabulating, interview and sections, graphing and thotography. The plan calls for students to firm visit a shopping center. Stores may be classified according to type and a graph drawn showing the results. Another activity calls for students to visit a store and compare Prices and sizes of stricies and determine which are the better buys. At a clushing store they may note the type of materials used for clothing, and hardware stores provide the opportunity to study countries of origin of products and faw materials and transportation meth-ods. Other activities look at various building ods Other activities look at various building materials, car movement patterns in Parking lots, and landscaping design. Children may also visit travel bureaus and plan trips, learn how to open a savings account at a bank, and choose a nutritious

lunch from a restaurant menu. A number of urban stud) schivities are also listed for schene teachers. including investigation of urban climates, environmental impacts and sewage iteatment processes.

ED 173 062 Railton, Estiter P. Ed. Railton, Edward, Ed. ED 173 062 Hawaii: Lava or Leave It, California State Linix . Hayward.

Pub Date - 76

Pub Date—750. Not available in hard copy due to poor print quaitly. Developed for a teacher education course. Field Study in Environmental Education.

at California State University
Pub Type— Guides - Classroom - Teacher (052)
EDRS Price - NFO1 Plus Postage, PC Not Asailable from EDRS.

Secondary Education, "Environmental Educa-tion Excendery Education, "Environmental Educa-tion Excenential Learning, Handigrafts, "Learn-ing Activities Objectives, "Outdoop Education, Descriptors - Astronomy. Plant Identification, Resident Camp Programs, Solar Radiation, "Teaching Methods, "Water Re-

Identifiers-Experiential Education, "Hawaii, Ha-

wate Outdoor Education Center in cooperation with the Hawaii 2000 Outdoor Education Center, a summer evology course for teachers on the Island of Hawaii developed and conducted an environmental school in Hawaiian outdoor education for 18 children beincen the ages of 9 and 13. Thirreen teachers ento lea in a California State University field course in environmental edu-cation worked with the Hawaii 2000 group in setling up the course conducting it and at its conclusion, in compiling a curriculum guide for Hawatten outdoor education. The course outline and requirements, teacher preparation directions for class projects timetable, evaluation methods, and supply and equipment lists were all included in the guide. The resident eamping experience featured projects centered around three major topic areas, sun and sky, water, and land. The sun and sky sun cock of and printing and pinhole photography. In the water segment of the course, students learned how to snorkel, aquatic safety rules, adaptation techniques of marine animals to the rocky shope. and how to collect and press algae. The land activities included hiking, first aid, sing-alongs, non-uter-sil outdoor cooking, sand easting, sand painting, Japanese fish printing, and tie-dying, Although prejects outlined in this guide are grared toward an Hawaiian setting, use of this document could carry over to Mainland outdoot education crasses as well. (DS)

ED 174 431 SE 028 239 ED 174 431
Janten. Poul G. And Others
The Prairie-A Resource for Environmental Study.
Modules, Scripts and Study Sheets.

Kansas Environmental Education Centrel Kansas Environmental Education Centrel Spons Agency—Office of Education (DHEW), Washington, D.C. Office of Environmental Eduestion.

Pub Date--[74] Grant---OEG-0-74-7405

Grant—OEG-774-7807

Note—42sp.: Not available in hard copy due to matginal legibility of original document

Pub Type—Guides • Classroom • Teacher (052)

EDRS Price • MF01 Plus Postage. PC Not Available from EDRS.

Descriptors-*Conservation (Environment). Conservation Education, Curriculum Guides
*Ecology, Elementary Secondary Education Guides. *Environment, *Environmental Education, Field Trips, *Interdisciplinary Approach, *Outdoor Education

This editection of activities uses outdoor educa-tion and field trips to teach concepts of multi-disciplinary interest along with lessons in ecology and environment. Teaching modules usually include information on grade level, main subject being ad-dressed, theme, objectives, and other useful information in addition to instructions for the activity. (RE)

ED 176 905 Huck Alben R. Decker, Eugene Environmental Respects A New Approach to door Education.

Safari Club International Conservation Fund, Tue-

son, Ariz.
Spons Agency—Colorado State Liniv., Ft. Collins. Dept. of Education., Colorado State Liny, Ft. Collins Dept. of Fishers and Wildlife Biology

Pub Date-Jan 76

Available from Safari Club International Conservation Fund, 5151 E. Broadway, Suite 1680, Tucson, Anzona 85711 (53 50)

Pub Type—Guides - Classroom - Teacher (052) — Guides - Non-Classroom (055) EDRS Price - MF01 Plus Postage, PC Nor Availa-

ble from EDRS.

ble from EDRS.

Descriptors—Activities, Animal, Behavior, Camping, "Conduct, "Curriculum Desciopment, Curriculum Enrichment, Curriculum Planning, Educational Objectives, Educational Philosophy, Educational Resoutces, "Environmental Education," Ethical Instruction, Ethics, Experiential Learning, Instructional Materials, Instructional Materials, Instructional Program Openion, "Program Desciopment Identifiers—Fishing, Huntime

-Fishing, Hunting Identifiers-

Most outdoor education programs do not include the reaching of correct outdoor behavior. The pur-pose of this manual is to assist educators and coneerined lay persons in establishing an outdoor education Program with an instructional strategy that will manipulate students into occoming responarbie, ethical, respectful outdoor estitens. Both lay persons and educators can use the detailed manual explanations, directions, and hints to stude them through the entire process of designing an Environmental Respect curriculum package, from program inception torough approval and implementation to evaluation and modification. Five sample Curneulum Lesson ideas (Investigating Wildlife, Inves-tigating Hunting, Investigating Fishing, Investigating Hiking and Camping, and Survivaty attempt to bring out the unique quatties of this out-door education philosophy which emphasizes deve-loping environmental respect by utiliting the outdoor sports. Respectful behavior is the essence of the units which begin with an introduction and a topic outline. For each topic there is an overview a basic approach, and behavioral objectives with actavitues for active ving them. A resource section vista sources of appropriate teaching materials for each unit. Additional tesource material souters such is federal and state agencies, associations, and companies are listed in an appendix. (SB)

RC 011 552 ED 176 909

Lathrop, David M. And Others Wondering Outdoors, Adventures and Experiences in Earth's Oldest Classroom Freeport School District 125, IIL

Pub Date-Mar 7a

Note-30p.

Pub Type- Guides - Classroom - Teacher (052) EDRS Price - MF01/PC02 Plus Postage.

Descriptors-Art, Community Resources, Curneutom Development, Curriculum Ennehment, Educational Objectives, *Elementary Secondary Education, Experiental Longing Integrated Curniculum, Language Arts, "Darning Activities, Mathematics, "Outdoor Education, Program Evaluation, Social Studies, Units of Study

An aid for planning outdoor education for 'elementary and high school students in the Freepon Pucks Sepools, Freeport, Illinois, this guide is designed to help teachers expand the existing cur-Comming of intestating ontoool sensities in all steas of study. Assessites for grades K-6 are organized by socation eschool ground, neighborhood, combeyond the community), activities for grades 7-12 are organized by subject area fart, social sindies. sanguage arts, health and physical education, home eschomics, mathematics, science, and drama and # = 4) The suggested activities are diverse, traditiuna, 43 web as non-traditional activities are listed V: the singlet earten level suffestions include a walk on the school grounds to gather teaves, a neighborn-x & walk to practice pedestrian safety rules, and a visit to a construction site. At the seventh grade ieses suggestions include art projects using natural materials, study of local history and Indian relies. "& sails for campline entertainment, and constructing a regional map. A separate section lists

steely units such as geology, weather, and local hiswe and the outdoor activities appropriate to the m.: The guide includes an enumeration of the goals of the outdoor education program and the methods used to program evaluation. (JH)

ED 182 144 SE 029 862 Tomahawk School Porest Curriculum, Tomahawk School District, Wis Pub Date—79

Note-137p., Contains occasional light and broken

type
Pub Type— Guides - Classroom - Teacher (052)
EDRS Price - NIF01/PC06 Plus Postage.
Descriptors—Curreculum Development "Elementary Secondary Education "Environmental Education." Field Trips. "Foresti) "Interdisciplinary Approach, *Learning Activities, Outdoor Education, Science Cumeulum, Science Education Identifiers-Project Learning Tree

Presented in this corriculum guide are the teacher instructions and student materials for field trips to the school forest Learning scinisties, utilizing the philosophy, materials, and procedures of Project Learning Tree (PLT), are included for grades k-12 Each activity includes the subject area learning objective, grade level, procedure corresponding Project Learning Tree setivity, and extensions, Student

SE 029 825 We Can Help, Environmental Education Teaching Resources. Teacher's Guide and 22 Outdoor Classroom Environmental Education Guides.
Minnesota Environmental Sciences Foundation.

and teacher evaluation forms are included. (BT)

Inc., Minnes polis. Spons Agency—Fish and Wildlife Service (Dept. of Interior). Washington, D.C. Pub Date—75

Note-198p.: Not available in hard copy due to copyright restrictions. Contains occasional col-

ored pages which may not reproduce well Available from—Icany Publishing Co. 57 Queen Ave., South, Minneapolis. M. 55305 (515 00) Pub Type—Guides · Classroom · Learner (051) — Guides · Classroom · Teacher (052)

EDRS Price - MF01 Plus Postage. PC Not Availa-

Descriptors—Botany, Career Planning, Earth Science, Ecology, Elementary Secondary Edu-Science, *Ecology, *Elementary second Education, *Environment, *Environmental Education, *Environment Accessed Land Use tion, interdisciplinary Apploach, Land Use. Language Arts, Meteorology, Outdoor Educanon, Photography, Population Growth, Public Policy, Science Education, Sciences, Social Stu-dies, Surveys, Water Pollution Control, Water Re-sources, Wildlife Management

This teacher's guide, and accompanying set of 24 activity packets, is designed to direct outdoor learn-ing experiences by students attormation is col-lected and then shared in large group classroom discussion. The 24 activity packets are divided into levels, Level I is recommended for grades 4-6 and Level II for grades 7-12. Each fuide is a complete description of an investigation involving an environmental topic or issue. Each activity guide includes a synopsis, coveronmental goals, background, putpose, Objectives, matenais needed, introduction,

and activity description. (RE)

EĎ 184 734 RC 011 656

Sommer. Bonnie Resident Program Guide: Hillside Outdoor Education Center.

tion Center.

Edwin Gould Outdoor Education Centers.

Brewster, N.Y.

Spons Agency—Gould Foundation for Children.

New York, N.Y.

Pub Date-178 Note-

Note—17.

Available from—Edwin Gould Outdoor Education
Centers, Gage Road. Brewster. NY 10509 (\$3 00)

Pub Tybe— Guides · General (050)

EDRS Price - MF01/PC02 Plus Postage.

Descriptors—Camping, *Check Lists Educational

Assessment. Educational Objectives. Elementa IV Secondary Education. *Experiential Learning. Facilities, Field Instruction. Learning Experience. *Outdoor Education. Postsecondary Education. *Program Development. Program Guides. Recreational Programs. *Resident Camp Programs. Teaching. Guides. Teaching Guides Identifiers Hillside Quidoor Education Center

Founded in 1972 as part of the private, non-profit ild Outdoor Education Centers, the Hill-

side Outdoor Education Center offers services to various educational groups by providing residential experiences for students and faculty, day-visit programs, school-site outdoor education programs, teacher workshops, college courses in outdoor edueation, and conferences. The Center is situated on a SO acre site typical of an upland, glaciated. northeastern deciduous forest area and meludes a lodge, log cabin and homestead area, 2 dormuones each capable of accommodating 32 students and 4 staff, a tenting area, and several staff residences. This guide provider information for center users: descriptions of facilities, a statement of purpose. health and safety tips, emergency procedures, sam-ple menus, a typical daily schedule, program offer-ings, teacher guidelines, procedures for dorm supervisors, pre- and post-trip activities, sample bus games, songs, possible teacher-led evening activi-ties, and references in outdoor education. Sample forms, records, and ehecklists for participating teachers, students, and parents include pre-planning teacher checklist, table chart for meals, dorm assignments, instructional group assignments, what to bring, health record, publicity release, permission slip, and evaluation forms. Maps of Hillside and its surrounding trails 45 well 45 directions for reaching the Center are also provided. (NEC)

ED 184 735 RC 011 657 Johnson, Patricia And Others
In and Out 101 Activities to Enrich the Learning Experience.

Experience.

Edwin Gould Outdoor Education Centers.

Brewster. N.Y.

Spons Agency—Gould Foundation for Children.

New York, N.Y.

Pub Date—Aug 79 Note—1619.

Available from-Edwin Gould Outdoor Education Centers, Gage Road, Brewster, NY 10509 (\$8.00)
Pub Type— Guides · Classroom · Teacher (052)
EDRS Price · MF01/PC07 Plus Postage.

Descriptors-Activity Units, Conservation Educa-tion. Educational Games, Educational Media. tion. "Educational Games. Educational Media. Elementary Secondary Education. Environmental Education. "Experiential Learning. Games. "Handictafts. "Learning Activities. "Natural Sciences. "Outdoor Education. Programs, Recreational Activities. Science Education Identifiers—"Edwan Gould Outdoor Education Centers N."

Activities developed and used with children and adults participating in the program offerings of the Edwin Gould Outdoor Education Centers are pre-sented Information describing most activities ineludes name, description of the activity, objectives, supervision or help required, procedures, time in-volved, size of area required, materials, suggestions and comments, suggested student level, and observation and evaluation enteria. Projects are grouped under five major eategories. Fourteen outdoor academie activities include compass activities, mapping and map symbol practice, snow science, stalking the wild poem, and survival shelters. Seventeen natural which there is the continuous bud executes the same of the matural history projects range from a scavenger hunt, camouflage, egg earton explorations, and plot studies to sun flecks, water in spring, and web of life Thirty-three outdoor erafts and projects describe broom-making, city trail making. Coke bottle craft, both those tables table capturation bud facilities. hobo stoves, igloo construction, bird feeders, leaf ties. Thirty-one indoor eraft projects include burlap test Intry-one indoor erart projects melude burlap seaving, candle dipping, crystal garden. Indian beadwork, milk earnon puppers, shrunken head, and pudding paint. Sis outdoor games and recreation semines are A-MAZE-ING, I Love New York Maratinoners Club. Firate Treasure Hunt. Predator. Prey Game. Tsash Can Scoop Ball, and Winter Games - Snow Snake. (NEC)

ED 186 156 RC 011 572 Handbook for Students, Teachers and Parents, BOCES/SCOPE Outdoor Learning Laboratory at Sunken Meadow.

at: Sunnen Meadow.
Long Island State Park and Recreation Commission, N.Y., New York State Office of Parks and Recreation, Albany... SCOPE Outdoor Learning Laboratories, Kings Park, N.Y.
Spons Agency—Suffolk County Board of Cooperative Educational Services 3, Dix Hills, N.Y.

Note—31p.

Available from—SCOPE Outdoor Learning
Laboratories, Sunken Meadow State Park, PO
Box 186. Kings Park, NY 11784 (\$1.50 plus postnge). Pub Type— Guides - General (050) — Reports -

Descriptive (141)
EDRS Price - MF01/PC02 Plus Postage EDRS Price - MF01/PC02 Plus Postage.
Descriptors—Activities, Elementary Secondary
Education. Environmental Education. Equipment. *Esperiential Learning, *Field Experience
Programs, Field Instruction, Field Trips, interdisciplinary Approach. *Learning Laborationes,
*Liberal Arts, *Nature Centers, *Outdoor Education, Program Guides
Identifiers—*New York (Suffolk County), Outdoor
Learning Laboratory NY, Sunken Meadow State I
Park NY

Park NY Park NY
Since 1971 a fully equipped learning laboratory building and the open fields, woodlands, salt water marshes, and beaches of Sunken Meadow State Park have been available for year round day use by students and educators in New York's Suffolk and Nassau counties. Funded by the New York Office of Parks and Recreation and local Boards of Cooperative Educational Service, the Outdoor Education Program has been designed as a multidisciplinate. Program has been designed as a multidisciplinary approach to utilizing the outdoor environment to supplement, strengthen, and give new dimensions to the existing school curriculum. Participants have found that these environments are not only appropriate for study of the natural sciences, but that art, music, mathematics, Long Island history, and the music, mathemates, Long istano instory, and the language arts can be learned more effectively in such surroundings. The handbook contains: teacher procedures for participation in the program; hours of operation; a map and directions for reaching the laboratory: transportation and parking procedures; radio stations to monitor for possible laboratory closing during inclement weather; appropriate dress; fire regulations; safety, first sad, and emergency procedures; instructions for using the mobile radio network while in the field; security measures; range network want in the neigh security measures; conservation practices; a map of the park; and a student registration and health blank. In the original, 28 blank pages are provided for students to maintain a log of their learning experience. (NEC)

ED 187 485 RC 011 459 Fox Carlo And Others Project Ranger Curriculum Gnide.
Portland Public Schools. Oreg Area I Office
Spons Agency—Office of Education (DHE W).
Washington, D.C.: Oregon State Dept. of Education. Salem.

Pub Date-Jun 78
Note-433p: May not reproduce due to colored

Available from-Ponjand Public Schools, 5103 N Wills Boulevard, Portland, OR 9*203 (515.00. 50 postage and handling) Pub Type— Guides - Classroom - Teacher (052) — Guides - Non-Classroom (055) EDRS Price - MF01 Plus Postase. PC Not Availa-

ble from EDRS. Descriptors—Adventure Education. *Affective Behavior, Behavior Change, *Behavior Problems. Behavior, Behavior Change, "Behavior Problems, Change Strategies, Counseling Curriculum Guides, Discipline, Educational Philosophy Elementary Secondary Education, "Environmental Education, Experiential Learning Field Trips, Group Activities, "Humanistic Education, Individual Desciopment, "Learning Activities, "Outdoor Education, Resource Marchais, Student Teacher, 2014, North dent Teacher Relationship. Teacher Role, Work Study Programs

Identifiers-Initiative Tests, Oregon. Rope

The objective of Project Ranger is to improve school behavior and academic performance of selected primarily consuptive, students who are failing in the traditional school program. The Ranger eurnoulum uses the outdoor environment as inc medium for improving student self-concept and re-lations with peers and adults and for providing skills which will help the student overcome his problems in the regular classroom. Published at the end of four years of program development, the Ranger Curneulum Guide is designed to be a manual for school districts and other organizations interested in implementing a similar program. The guide. focusing on program activities and studens counseling techniques, presents thorough descriptions of goals, materials, and procedures in nine curriculum-cations areas affective learning, ropes courses and initiative tests, conservation/community service work projects, field trips, and environmental stu-dies. Topies for environmental study are community adventure, energy, food, and recycling, the Oregon Coast. Oregon seelings and ecology; and winter survival. The guide includes a discussion of the program philosoph) and the application of that

philosophy in criabilishing student discipline and conducting activities. A hibliography lists 150 resource materials for teachers and students. (JH)

ED 187 579 SE 031 009

Finkelitein, Robert J. ?
The Central Park Workbook, Activities for an

Urban Park.

Central Park Task Force, New York, NY Spons Agency—National Endowment for the Humanities (NFAH), Washington, DC Pub Date -80

Note-55p. Not available in hard copy due to

copyright restrictions
Available from—C C F for The Central Parx Task Force, The Arsenal, Room 102 830 Fifth Avenue, New York, NY 10021 (\$3.95 plus tax and shipping, Discounts on quantity orders).

Pub Type — Guides - General (050) — Guider -

Classroom - Learner (051) EDRS Price - MF01 Plus Postage, PC Not Availa-

ble from EDRS.

Descriptors-Architecture, Community Resources. *Environmental Education, Landscaping, Natural Resoutces, "Outdoor Education, Parx Design. Parks, Recreational Faculties, School Activities, *Liban Environment, *Workbooks

This workbook contains many outdoor activities which were developed in New York's Central Park to help children explore and understand their city parks involvement in the activities is intended to increase appreciation and awareness of the role of parks in the urban environment. The publication can serve as an example of what others can do with sımılar facilities. (SB)

ED 194 26I RC 012 328

Guidelines for Outdoor Education. Leeds and Grenville County Board of Education.

Brockville (Ofitano)
Pub Date—Nov 70
Note—1a0p: Colored background may not reproduce well.

Pub Type— Guides · Classroom · Teacher (052) EDRS Price · MF01/PC06 Plus Postage. Descriptors— Educational Objectives. • Elemen-

tary Secondary Education, Environmental Education, "Experiential Learning, Instructional Materials, Interpersonal Competence, "Learning Activities, Lesson Plans, "Outdoor Education, "Resource Units, Self Esteem, Skill Development

Identifiers-Ontario

The outdoor education program detailed in this document is envisaged as permeating the total elementary/secondary curriculum to study natural topies in natural entires and ro promote respect for and appreciation of the natural environment, perception of total environment as a learning area, perecption of the interrelationship of all living things, awareness of the wise use of the environment for awareness of the need for conservation in all aspects of the out-of-doors, and development of the child's ability to enjoy himself thoroughly and to function efficiently in a democratic society To achieve the above goals, stress is placed on the development of skills rather than on content-on-ented curriculum and both school and community cavironment are included in the activities. Suggested divisions of outdoor subject matter and some afterinstiver for beginning studies in each area are outlined. The material is suggested for use as a statung point only, for the teacher's professional knowledge and experience with students, along with imagina-tion, will make possible the integration of other ac-tivities into the outdoor program. Activities are repeated at several levels so that the maturing student may investigate the area in greater depth in keeping with increasing levels of competence. Spe-eific topics addressed include school, transportation, hills, old cometeries, wooded areas, pond and stream, grassy areas, matshy areas, tocks and minerals, atmosphere, community helpers, map and com-pass, form study, urban study, and "outers", (Author/AN)

ED 195 544

SP 017 178

Ezersky, Eugene M Outdoor Edweation in the 80's-The Urban Chal-

Pub Date-- 6 Nov 80

-9p : Paper presented at the Annual Recreation Conference of the State University College at Cortland 130th, Cortland, NY, November 6,

Pub Type— Speeches/Meeting Papers (150) -

Opinion Papers (120)

Opinion Papers (120)

EDRS Price - MF01, PC01 Plus Postage.

Descripters—"Curriculum Development. Elementary Secondary Education, Freid Trips, Futures (of Society). Outdoor Education, Quality of Life. "Recreational Programs, Rural Urban Differences, "Student Needs, "Urban Culture Outdoor education is a "process of education, a

way of teaching which uses the outdoors as the mafor education facility and which articely involves students in the real world situations whete, learning takes place." Population shifts now place more than 85 pet cent of the population in an urban society if children from these environments are to develop a sense of understanding of the natural environment which sustains their liver in the man-made environ-ment of the city, they should be sole to appreciate and participate in recreational Opportunities that abound in the outdoor environment Resources and faculties for outdoor education for this largely negbackground and should focus on all aspects of urban life Experiences in the natural environment and in the man-made entironment should be made available to all children. Urban outdoor education camps. exchange programs among rural and urbanehildren, and professional education for outdoor educators can be developed to improve the quality of educanon and life for all students. Recreation skills and factimes which ean flourish in the inner city must also be developed. Effective outdoor education will help children and citizens to restize that they must improve their cities and creare a type of urban beauty to match the beauty of nature (CJ)

ED 198 980

RC 012 539

Cornell, Joseph Bharer
Sharing Nature with Children: A Percents' and Teachers' Nature-awareness Guidebook.
Report No.—ISBN-0-916124-14-2
Pub Date—79

Pub Date—79
Note—139p.
Available from—Ananda Publications. 1a618 Tyler
Foote Road. Nevada City. CA 95959 (5a 95)
Pub Type—Guider Class oom Teacher (052)
EDRS Price MF01/PC06 Plus Postage.
Descriptors—*Childrens Games. *Educational
Games, Elementary Secondary Education. Environmental Education. *Experiential Learning.
Learning Activities. *Observation. *Outdoor
Education. Rerection. Preschool Education.
Sensory Training. Teacher Role. *Teaching
Methods

Methods
The guidebook presents \$2 educational games designed for people of all temperaments and intended to open up nature to children (ages 3 and up) and adults. The games are organized in seven major seewith Nature. How Much Can You See, Nature's Balance, Learning Is Fun Play and Discovery, Spotting and Attracting Americals and Adventures. To help the teacher choose the eight game for the time and piace, each game description includes a quick reference guide indicating the concepts, atti-tudes, and qualities 14 teaches, when and where to play; the number of players; the best age range; the specific materials required, and the game's basic mood (estimand reflective, active and observational, or energetic and Playful). Among the activities included are a scaverger hunt, animal identification games, bird calls, predator-proy games, esmoufiage, and observation games. A thort introduction expiains five rules of outdoor teaching: teach less and share more, be receptive, focus the shild's attention rapidly, look and experience first, then talk, and let repends 100x and experience 1131, then talk, and let the experience be 1051.11 Each game is indexed in four ways according to its mood, its environment, the concerns it is not be actitudes and qualities it encounages. I buthor SB)

ED 201 421 RC 012 633 nell Blanche E

Pre-Planning Guide: Conservation Field Centres.
Residential Programs - General Information.
Metropolitan Toronto and Region Conservation
Authority. Downsview (Ontario).
Pub Date—76

Pub Date—76
Note—26p, Original guide prepared 1963, cevised and ceptinted 1966, 1969, 1971, 1976. For celated documents, see RC 012 63a-636.
Pub Type—Guides · Non-Classroom (055)
EDRS Price · MFDI/PC02 Plus Postage.
Descriptors—Adolescents. °Conservation Education. °Educational Environment. Educational Philosophy. Elementary Secondary Education. 114 A 71 F.

Group Experience, *Outdoor Education, *Program Design. "Residential Programs, Safety, So-etal Environment, Staff Role, Student Attitudes, Student Teacher Relationship, "Teacher Role Identifiers—Canada. *Conservation Field Centres (Canada). Ontario (Toronto)

Designed to assist teachers whose classes will par-ucipate in a residential experience at one of the Conservation Field Centres sponsored by the Metropolitan Toronto and Region Conservation Authority, this pre-planning guide provides necessary details about the underlying philosophy of the program and the roles and responsibilities of the visiting teaener, the school board and the Centre staff. The objectives of the residence program at the Centres are stated, to widen the concept and broaden the understanding of intelligent use of our natural resources, to illustrate conservation as an attitude the owing social as well as material processes; to allow practical outdoor application of theory and principles learned in the classrooms and to provide a more intensive experience in group hving for student and teacher. Suggestions are offered for deter-mining the tone of the expenence, based on the teacher's expeciations for the class, and for classroom Preparation for the visit. Details are included regarding a pre-planning visit by the teacher to the Field Centre, optaining parental cooperation and permission, health and safety suggestions, academic preparation, evening terreation time, and procedures to be followed for a guest night during the stay at the Centre. (CM/MH)

ED 204 084 RC 012 800

Babcock, William
Day Camp Manual: Program. Book IV.
Ontano Ministry of Culture and Recreation.

Toronto. Pub Dare-74

gram Administration. Program Development, Safety, Skill Development, Summer Programs Identifiers—Nature Study, Ontaino, Water Sports—Book IV in a 5-book day eamp manual discusses the camp program Section I desembes the organization, definition, and elements essential to specessful day pamp Programs, Section II, which addresses the benefits and special considerations of mass programs. grams, includes rainy eas contingencies, materials to have on hand, and activity suggestions. Section III discusses the organization of specific programs such as nature, camperait, outdoor cooking, once. teening, archery, and escause drama, Section IV desendes water programs, paying special attention to staff quantications, safety and emergency procestatt quantications, satety and emergency procedures, vanoeing, and sating, and includes several case studies of waterstont programs. Special events such as quitings, bakes, overnights, overdays, parent nights, and camp satin development sessions are described in Section 1. A residing list is divided into 12 sections: arts and etails, books to read to children, camping and camporatic cookery and wild dreat, dates. Individual lists with Office Processing 1915. foods, drama. Indian fore, music, offenteering; outdoor concation, outdoor sile, Program, references; seience and nature lore, and sports, games and aquatics. (SB)

ED 209 062 RC 013 028

Skluge Norman And Others
Activity Approach to Seashore Ecology, Environmental Education Series.

Nassau County Board of Cooperative Educational Services, Westbury, N.Y. 49p.; For a related document see RC 013

Services, we stouy. N.1.

Note—49p.: For a related document, see RC 013

027. Photographs may not reproduce well.

Pub Type— Guides - Classroom - Teacher (052)

EDRS Price - MF01/PC02 Plus Postage.

Descriptors—Animals, Botany, "Discovery Learning, "Ecology, Elementary Secondary Education, Enrehment Activities, "Environmental Education, Experiential Learning, Field Studies, Field

Tron. InterduseBhaary Adorroach, "Learning Ac-Trips, Interdisciplinary Approach. *Learning Activities, Outdoor Activities. *Outdoor Education, Physical Environment, Plant Identification identification. *New York (Long Island). *Seashore

Ecology

Hoping that exploration, research, and study caperiences at the seashore will provide a deeper and more meaningful insight and understanding into the

BEST COPY AVAILABLE

relationship between man and his total environment, the booklet describes the seashore environment of Long Island (New York) and suggests learning activities that can occur at the seashors. Part I introduces Long Island's many habitats (wave-washed sandy beaches, rocky shores, shallow bays, busy harbors, grassy marshes, tidal flats), common plants (plankton, seaweed, marram, false heather, seaside Soldentod, Japanese pine, phragitan) and anymist (mole craps, sandhonnett, harming) and anymist (mole craps, sandhonnett, harming) and anymist (mole craps, sandhonnett, harming) and anymist. heather, scande gotdenrod, Japanese pine, prinag-mites) and animisi (mole crabs, sandhoppers, bar-nacles, oysters, snails, sulls, plovers, terms). Part II suggests activities for small groups of students work-ing together, indicating the type of site required for the activity, materials needed, procedures, work-sheets, charts, and discussion questions. Activities include: beach combins at high and low tide; beach include: beach commission right and low their beach profiles; animal work sheets; and study of general climate, tides, plankton, seine nels, sand, dunes, hermit crabs, tidal pools, cord grass, tidal flats, harmacles, harmacle succession, and birds, Ideas for expressing thoughts, feelings, and impressions and interdisciplinary activities in science, art, social studies. English, math, home economics, shop, photography, and music are lated. (NEC)

ED 213 163 -EC 141 114

Robb. Gary M. And Others
Special Education in the Natural Environment: A
Training Manual in Providing Outdoor Education. Recreation and Camping for Gaildren with

Camp Allen, Inc., Bedford, NH. Indiana Univ., Bloomington, School of Health, Physical Educa-

tion and Recreation.

Spons Agency—Office of Special Education (ED),
Washington, D.C. Div. of Personnel Preparation. Pub Date—81 Grant—G007801693 Note—184p.; For related document, see EC 141 -8 i

115.

Available from—Bradford Woods Outdoor Education, Recreation and Camping Center, Department of Recreation and Park Administration, School of Health, Physical Education and Recreation, Indiana University, Bloomington, IN 47402. Pub Type—Ouides - Non-Classroom (055) — Guides - Classroom - Teacher (052)

EDRS Price - MFDI/PCDR Plas Postage.

Descriptors—Camping, Case Studies, "Disabilities, Elementary Secondary Education, Inservice Education, "Outdoor Activities, "Outdoor Education, "Program Development, Recreation The training manual for use with personnel con-

The training manual for use with personnel concerned with outdoor education for the handicapped provides a suide to program development in the areas of background knowledge, skills and methods of outdoor education, individualized planning, and program evaluation. The five units are titled: "Defining." "Introducing." "Individualizing." "Implementing." and "Evaluating." Each unit is organized into: "Critical Question(s)" (questions concerned with major unit components): "Toward an Answer" (overview of needed learning); "Case Study" (example of an experience of an individual or agency); "Enabling Objectives and Learning Activities" (specific objectives and experiences); "Self-Test" (ensuring that learning is completed); and "Learning Resources" (materials, activities, and readings). Some of the critical questions considered by the cerned with outdoor education for the handicapped Some of the critical questions considered by the program include: what is outdoor education; how can outdoor programs benefit my students; how can the needs of individuals in my class/Program be met ming outdoor experiences; and how can the effec-

ED 213-164 EC 141 11
Robb. Gary M. And Others
Special Education in the Natural Environment: A
Resource Guide in Providing Outdoor Education,
Recreation and Camping for Children with
Disabilities.

The Buddend NH: Indiana Univ EC 141 115

Disabilities.
Camp Allen. Inc., Bedford, NH.; Indiana Univ., Bloomington. School of Health, Physical Education and Recreation.
Spons Agency—Office of Special Education (ED), Washington, D.C. Div. of Personnel Preparation.
Pub Date—8!
Grant—G007801693
Note—177p.: For related document, see EC 141
114.

Available from Bradford Woods Outdoor Educa-tion. Recreation and Camping Center, Department of Recreation and Park Administration, School of Health, Physical Education and Recrea-

tion, Indiana University, Bloomington, IN 47402.

Bub Type— Guides - Classroom - Teacher (052) —
Guides - Non-Classroom (055)

EDRS Price - MF01/PC08 Plos Postage.

Descriptors—Andotated Bibliographics, Camping,
Disabilities, Elementary Secondary Education,
Equipment, Group Activities, Inservice Education,
Program Development, Recreation, *Teaching
Methods Methods

The resource guide for use with personnel con-The resource guide for use with personnel concerned with outdoor education for handisapped children Provides a guide to activities, techniques, resources, and equipment. The first section consists of analyzed activities as they relate to individual education plans and treatment plan objectives. Provided, for each activity is a description of the activity process, goals, subgoals, and activity components. Examples of the theme approach to outdoor education are also included. The second section focuses on activities with suggestions for hikes, awareness activities, nature aris, sones, stohikes, awareness activities, nature arts, songs, stories, dramatics, special events, evening programs, and adventure activities. The third section, on reand adventure activities. The third section, on re-sources, provides announced references on the philosophy/rationale of outdoor education, pro-gram administration, programing techniques, nature identification, and films and records. Instructions and diagrams for making an insect net, a water-scope, and a soil sifter are given in the final section. (DB)



sured? (DB)

Biophysical Emphasis

Elementary/Middle

ED 032 220

SE 007 478

Busch, Phallis
The Use of the "Indoor-Outdoor-Indoor" Approach to Teaching Science Conservation with Concentration on Methods of Inquiry and Emphasis on Processes of Science, Grades K-3.
Ulster County Board of Cooperative Education

Services, New Platz, N.Y
Spons Agency—Office of Education (DHEW),
Washington, D.C., Bureau of Elementary and
Secondary Education.
Pub Date 69
Note. 272

Identifiers—ESEA Tute III

Contained are instructional materials developed by the Science Project Related to Upgrading Conservation Education. The lesson plant given are intended to demonstrate the "indoor-outdoorapproach to teaching science conservation with concentration on methods of inquiry and emphasis on processes of science Four sub-sect areas are treated. Art. Water, and Weather: Living Things. The Earth and Its Composition. and Oue Growing Bodies One plan is given for each area for each of grades K-3. The plans list materials required, set problem questions, then describe indoor and outdoor activities to help students discover unswers to the questions. Relevant science concepts and conservation concepts are science concepts and conservation concepts are listed. The manual also lists the objectives of Outdoor Discovery Guides," and given an example guide. There is a summary of the gnais of the program, together with general guidelines for teaching and selected references for the teachers. This work was prepared under an ESEA fille lift continue. (ER) contract. (EB)

SE 006 769

Butch. Phyllis S Butch. Phyllis S
Urban Discovery Manual, 75 Stimulating Ideas for
Investigating Nome Common Urban Resources
Indoors and Outdoors, Grades K-6.
Uster County Board of Cooperatise Education
Services, New Platz, N.Y.
Spons Agency—Office of Education (DHEW).
Washington, D.C. Bureau of Elementary and
Secondars Education

Secundary Education Pub Date 69

EPRS Price MF-\$0.25 HC-\$1.70

Descriptors—Biologs, *Conservation Education,
Earth Science, *Elementary School Science,
*Instructional Materials, Pollution, Resource
**Autorials, Science Activities, *Teaching Moterials. Seience Activities. Guides, *Urban Education

Identifiers-Elementary and Scenndary Education

Act Title III

Presented are 75 suggestions for investigating in grades Kish such common urban resources as trees, seeds, polluted air, rocks, and inseets. The manual is designed for use with the Urban Discovery Box which contains samples enliceted from eight urban resources along with some objects helpful to insestigate these. A section in the manual for each of the eight resources provides

teachers with needed information for helping the pupils earry out their incestigations. Many potential problems for incestigation are directed at the development out such science processes as hypometic formation, observation, data collection the making of inferences, classification, and distribution of problems. Numerous discussion questions are also included. A complete list of resource materials is provided for the desclopment of a "discovers bos." This work was prepared under an ESEA Title III entitiact. (RSI

Busch, Phyllin S.

SE 006 766

Some Guides to Discovery About Elm Teees, Owls. Earthworms, Cockeoaches, Cement Concrete.

Ulter County Board of Cooperative Education Services, New Platz, N.Y.

Spons Agency-Office of Education (DHEW Washington, D.C. Bureau of Elementary and Secondary Education. Pub Date 69

Pub Date 69
Note—18p.
EDRS Price MF-\$0.25 HC-\$1.00
Descriptors—Biology. *Conservation Education.
Science. *Instructional Activity.* Discovery Learning, Elementary School Seience, General Seience, Instructional Materials, Resource Guides, Science Activity

ties, *Teaching Guides
Identifiers—ESEA Title III. Project SPRLCE

The introduction emphasizes the need for ensironmental and conservation education, and 22evailable to every school are listed. Detailed sug-gestions are made for investigating cement and concrete, cockroaches, caribworms, elim tries. and owls In each ease general buckground mation and a list of references is followed by sage gested student activities Identification kess and instructions for constructing simple apparates are given where needed. This work has under an ESEA Title III contract. (EB)

Ware, George McCollum. Howard P.

A Guide for Teaching Conservation and Resource-Use Education in the Schools of Louisians, Forest Section.

Louisiana Supplementary Education Center. Natchitoches. Pub Date 67

Note...49p.

EDRS Price MF-\$0.65 HC-\$3.29

Descriptors—Biology, "Conservation Education,
"Elementary School Science, Forestry, Junior
High Schools, "Science Activities, "Secondary
School Science, "Teaching Guides

Identifiers-Louisiana These guides for teaching conservation and resource-use education give a sequential treatment of conservation concepts from primary through junior high school grades. There are four sections, each sequential; this guide covers the "Forest" section (others are "Soil and Watee," "Minerals" and "Wildlife"). Ten major concepts minerais and "witdine". Ten major concepta are arranged in a sequence which is repeated at three levels: primary, intermediate, and junior high. The concepts are "identity," "parts," "life needs," "reproduction," "community," "enemees," "recreation," "wildlife," "conservation," and "utilization." For each level the concept is stated as it applies at that level, then a paragraph of discussion of the concept directed to the teacher is followed by suggested activities for students and a statement of possible outcomes. A glossary of terms is given, and appendices give instructions for making paper by band, building. stocking and earing for terrariums, and constructing a pegboard model of a forest. (EB)

ED 059 950

SO 002 616

Sareo, Herbert J. An Environmental Approach to Eighth Grade

Western Washington State Coll., Bellingham. Huxley Coli of Environmental Studies. Spons Agency—Office of Education (DHEW),
Washington, D.C.:
Report No—SW-PR-3
Buteau No—BR-0-0848

Pub Date Oct 71 Grant-OEG-0-70-5039 Note - 109p.

EDRS Price MF-\$0.65 HC-\$6.58

EDRS Price MF-50.65 HC-56.58
Descriptors—Community Resources. Concept
Teaching, Conservation Education. "Ecology,
"Environmental Education. "Field Experience
Programs. Grade 8, "Interdisciplinary Approach. lumor High Schools. Natural
Resources, Pollution, Population Education,
.Problem Solving, Program Descriptions,
Resource Guides. "Science Curriculum, Secondary Grades. Small Group, Instruction. Grades. Small Group

Teaching Guides
Identifiers—Ecosystems. "Sedro Woolley Project This report outlines a method of teaching eighthigrade seience with an environmental perspective. Areas of study normally found in junioc bigh science curriculum are integrated with en-wironmental concepts. This particular approach to this grade science is intended to be process oriented, field oriented, problem oriented, and a celevant to the local community. The class is divided into three or four heterogeneous groups simulating a community situation. Students simulating a community situation. Students shoose from a list of environmental topics and are given a "group plan" comprised of a list of general quettions unique to the tubject area to guide their research. The role of the instructor is one of facilitator; students do all they can by themselves. Students are encouraged to expand their learning sources and gain actual environmental experience within the community through letters to organizations. Block scheduling is suggested. Provided are: readings, information and community sources; group plans; and a list of environmental educational concepts. Over one half of the book consists of appendices: Student Currespondence: Student-Oriented Information for Pespondence, Statement tenter information to Distribution: Resource Bibliographical Information; Student Papers on Speakers, Filmstrips and Movies, and Excepts from Group Plan Research, Related documents are: SO 002 611, SO 002 612, and SO 002 615. (Author/SJM)

SE 014 433 ED 065 351 Gross. Isa Helen Ecology, Elementary Teaching Guide.
Madison Public Schools, Wis Dept of Curneulum Development.

Spons Agency-Bureau of Elementary and Sceondary Education (DHEW/OE), Washington. O.C.



Pub Date [72]

Note - 265p EDRS Price MF-50.65 HC-59.87

Descriptors—"Ecology, Environmental Educa-tion, "Instructional Materials, "Intermediate Grades, Learning Activities, Natural Resources, *Teaching Guides Identifiers—ESEA Title III

In an effort to provide background information and encourage incorporation of ecological understandings into the curriculum, this teacher's guide has been devised for fourth and fifth grade teachers. It utilizes an activity-oriented approach to discovery and inquiry, outlining behavioral ob-jectives, learning activities, teaching suggestions, and bibliographic resources for each unit of sixdy. Fourth grade units cover arthropods, soil, rocks, chemistry, sun, air, water, and the forest. Fifth grade units include pond, marsh, meadow, and forest bomes, pollution, and E.Day activities. This work was prepared under an ESEA Title III contract. (BL)

ED 068 366

And Otherr Heal, Fred A And Canalla of Concrete?

Wisconsin Liney, Madison Research Development Center for Cognitive Learning
Spons Agency—Office of Education (DHEW),
Washington, D.C. Bureau of Research
Buccau No—BR.5-0216

Pub Date 72 Contract - OEC-5-10-54

Note - 294p EDRS Price MF.\$0.65 HC.\$9.87

Descriptors-*Elementary Grader, *Environmental Education, Instructional Materials, *Learn-ine Activities, Natural Resources, Outdoor ing Activities, Natural Resources, Outg

Developed for elementary science studies, this unit on man and environment requires student involvement in discovery, observation, gathering and recording data, and problem solving. A series of 19 bookiets, each designed as an activity which can be completed out-of-doors, comprise this student packet of materials. Topics studied in the activities include adaptation, communities, consumers, decomposers and decomposition, food chains, habitat, hearing, land use, marsnes, nutrients, producers, profit (land values), and wetlands Each booklet tells the student what he will study, what he should be 4ble to do, what he needs to know, what materials he needs and how to do the activity Outstions to answer and questions to think about as well as other ways to do the activity are listed. To summarize all the topies of study, a story is written about community concern and planning for an environmental is-sue. This set of materials was field tested in the spring of 1972 by the Wisconsin Research and Development Center for Cognitive Learning. (BL)

ED 079 048 Skant, Gary D SE 015 481

SE 015 161

The Orogen Cycle.
Powell County Environmental Center, Door Lodge, Mont

cons Agency—Bureau of Elementary and Secondary Education (DHEW/OE), Washing-Spons ton, DC

Pub Date 72 Nosc-280

EDRS Price MF-\$0.65 IIC-\$3.29

Descriptors-Chemical Reactions. Books "Engronmental Education, "Instrucuonal Materials, Multimedia Instruction, Naminal Resources, "Ordation, "Primary Grades Identifiers—ESEA fitte III
Produced for primary grades, this booklet pro-

adec dudy of the assgon-carpon dioxide scale in nature. Line drawings, a minimum amount of nar-rative, and a glossary of territe made up its con-tent. The booklet is designed to be used as readis in the bookiet is designed to be used as reading material a coloring book, or for dramate arts with students acting out parts in the cycle. This work was prepared under an ESEA little III contract. (BL.)

En 080 368

SE 016 622

Alementacy Environmental Education Norde Fafest Enstronmental Iducation Center, 5 Reading, Pa

Pub Date [73]

Note--91p EDRS Peice MI-\$0.65 HC-\$3.29

Descriptors— Curreculum Condes *Fentagy, *Elementary Grades, 'Enstronmental Education, Fundamental Concepts, Instructional Activities Natural Materials 1 carnin Resources Serences 1 carming

The ennecpt that society must process an ecological enricience which can relate to economics social, political, and other disciplines of culture to meet the challenge of maintaining a quality encomment, represents the basic philosophical rationale for these instructional materials. They are designed to give specific emphasis to the ecological implications of man's activation as generally explored in the coence cutneula for grades one through as. The outdoor laboratory approach is employed to encourage students to become more aware of their responsebilities as entitent in conserving and preserving man's natural resources. Six generalizations about man's relationship to his environment serve as a base around which concepts, questions, and activities are built. Three concepts are identified for each generalization at both the primary and intermediate levels, and individual concepts detail open-ended questions, discovery activities, follow-up activities, and instructional materials (Multimedia). Performance objectives, suggestions for evaluation, and a histograph, of books and field guides are also provided in this curriculum guide (BL)

ED 093 633 SE 017 209 Science 4-6. Kentucky's Environmental Education Program.

Kentucky State Dept. of Education. Frankfort. Div of Program Development, Pub Date [73]

Note-119p; Sec SE 017 210 for another unit in this series

MF-\$0.75 HC-\$5.40 Price POSTAGE

Descriptors-Behavioral Objectives, "Elementary School Science. *Environmental Education. Instruction. Instructional Materials. Science Edu-cation. Teaching Guides. Units of Study (Subicc (Fields)

Identifiers-KEEP. *Kentucky Environmental

Education Program...

This unit of instruction for grades 4-6 is one of a senes of curriculum units referred to as the Ina senes of curriculum units referred to as the Interdisciplinary Unit. Its purpose is to allow the individual teacher to expose the students to many experiences, ideas, and applications based on their convinonment (Keptucky). Each lesson is built on two base confeepts, each to balance the other. One concept is a positive statement and the other, its opposite. Each lesson has behavioral objectives and is developed in a three part sequence, showing, discussing, and applying the sequence-showing, discussing, and applying the ideas and concepts of that lesson. The unit is considered as a model on which to build and expand, both for teachers and students. The basic concepts presented in thir unit include air. water. land use, noise, and population. (EB)

ED 100 652 88 SE 018 343 Kindergarten, Environmental Education Guide.

Spons Agency—Bureau of Elementary and Secondary Education (DHEW/QE). Washington, D.C.; Wiscomm State Dept of Education. Madiston

Pub Date [74]

Note - 87p Price . MF-\$0.7\$ HC-\$4,20 PLUS POSTAGE

- Conservation Education. Childhood Education. Environmental Educa. tion. Instructional Materials. Interdisciplinary Approach. *Kindergarten. Learning Activities. *Natural Resources. Outdoor Education. Science Education. *Teaching Guides

Identifiers—Elementary Secondary Education Act
Title, Ill. *Project I C E, Title III

This kindergarien level environmental education guide is one of a series of guides. K-12, which were developed by teachers to help introduce environmental education into the tetal eurneulum. The guides are supplementary in design, it is the teacher's decision when the concepts, objectives, activities, and resources may best be integrated into the existing classroom outriculum. This guide contains a series of 12 episodes (minilesson plans), each having a number of suggested in- and out-of-class learning activities. The episodes are built around 12 major environmental concepts that form a framework for each grade or subject area, as well as for the enure K-12 program. Although the same concepts are used throughout the K-12 program. emphasis is placed on different aspects of each concept at different grade levels. The kindergar. ten guide focuses on aspects such as weather. temperature, population, water pollution, trans-portation, the seasons, "litter, and a conservation of resources Each of the 12 concepts is covered in one of the 12 episodes contained in the guide.
Further, each episode offers subject area integration, subject area activities, interdisciplinary activities, cognitive and affective behavioral objectives, and suggested references and resource materials useful to leachers and students. (Author/TK)

ED 100 653 88 SE 018 344 Grade One, Environmental Education Guide, Project I-C-E. Green Bay, Wis

Spons Agency—Bureau of Elementary and Secondary Education (DHEW-OE). Washington, D.C.; Wisconsin State Dept. of Education, Madison.

MF-\$0.7\$ HC-\$\$.40 PLUS POSTAGE

Descriptors-*Conservation Education. *Elemen. tary Education. *Environmental. Education. Grade 1. Instructional Matenair. Interdisciplinary Approach, Learning Activities, "Natural Resources, Outdoor Education, Science Educa-tion, "Teaching Guides Identifiers—Elementary Secondary Education Act Title III, ESEA Title III, "Project I C E

This first grade environmental education guide is one of a series of guides. k-12, which were developed by teachers to help introduce environ. mental education into the total curriculum. The guides are supplementary in design, it is the teacher's decision when the concepts, objectives, activities, and resources may best be integrated into the existing classroom curriculum. This guide contains a senes of 12 episodes (minitessons), each having a number of suggested in- and out-of-class learning activities. The episodes are built orecass tearning according to the episodes are built around 12 major environmental concepts that form a framework for each grade or subject area as well as for the entire k-12 program. Although the same concepts are used throughout the K-12 program, emphasis is placed on different aspects of each concept at different grade levels. The first grade guide focuses on aspects such as planets and seasons, living and nonliving organisms, overpopulation, water uses, and animal adaptation. Each of the 12 concepts is covered in one of the episodes contained in the guide. Further, each episode offers subject area integra-tion, subject area activities, interdisciplinary acuvities, cognitige and affective behavioral object tives, and suggested references and resource materials useful to teachers and students. (Author/TK)

SE 018 446 ED 100 676 Environmental Education Curriculum Development, Grades K. I. Foe St. Martin Parish. Saint Martin Parish School Board, St. Martinville.

Pub Date [74]

Note-241P. EDRS Price MF.\$0.7\$ HC.\$11.40 PLUS POSTAGE

POST AGE

Descriptors Conservation Education, *Curriculum Guides, Ecology, *Elementary Education, Environment. *Environmental Education, Crade 1, Instructional Materials, *Kindergar-Education. ten. Natural Resources. Primary Education. Science Education

Identifiers - Air. Soil

This environmental education curriculum guide is designed for teacher-use in kindergarten and first grade. It contains six units, which aim to develop environmental concepts related to the bio-physical environment Each unit, which is based on several concepts, includes behavioral objectives, activities, student worksheets, diagrams, illustrations, discussion questions, vocabuwords, resource materials, and teacher evaluation forms. The techniques of discussions observation, classification discovery, inquiry, and field work are employed throughout Unit I. Ecology, deals with the interdependence between and non-living things in the environment. The study of soil, what it is, its importance, and conservation is the focus of Unit 2 Unit 3 eaamines air as a substance which has weight and occupies space but has no color, odor, or shape. Linu 4 looks at water and the vital role it plays in the environment Noise, Unit 5, is a study of sounds, how they onginate, their variety, and their effects on man Unit 6. Wildlife, looks at both plants and animals. Bird flash cards and animal flash cords, plus instructions for their use. are also included in this unit (TK)

SE 018 657 FD 100 712 Environmental Education Curriculum Development, Grade 6, For St. Martin Parish. Saint Martin Parish School Board, St. Martinville.

Pub Date [74] Note-242p.

MF-\$0.75 HC-\$11.40 PLUS **EDRS** Price POSTAGE

Descriptors... "Conservation Education. "Curricutum Gusies. Ecology. "Elementary Education,
Environment. "Environmental Education.) Grade 8, Instructional Materials, Natural', Resources, Pesticides, Pollution, *Science Edu-cation, Teaching Guides Identifiers—Air, Minerals, Soil, Wildlife

This environmental education curriculum guide is designed for teacher use in the sixth grade. It contains seven units that aim to help the students basic understanding of environmental relationships, environmental problems, environmental quality and to help the students develop . skills to solve current environmental problems. Each unit, based on several concepts, includes objectives, activities, student work sheets, discussion questions, resource materials and vocabulary words. The techniques of discussion, observation. elassification, discovery, inquiry, and field work are employed. The guide includes the following units Unit I, environmental relationships, Unit 2, soil conservation, Unit 3, air poliution, Unit 4, the hydrosphere, Unit 5, wildlife and related problems, Unit 6, mineral resources, and Unit 7, pesticide problems. (TK) &

ED 101 948 (East Syracuse-Minos School: Environmental Education Msterials, Elementary Package, Grade 1-Grade 5.1

East Syracuse - Minoa Central Schools, East Syracuse, NY.

Spons Agency—Offic of Education (DHEW), Washington, DVC Office of Environmental Education.

Pub Date [73] Grant-OEG-0-71-4621

Note-170p, Best copy available, occasional marginal legibility

Price HC-\$8.24 PLUS EDRS MF-\$0.76 POSTAGE

Descriptors—*Conservation Education, *Curriculum Guides, *Elementary Education, Environment. *Environmental Education, Instructional Materials, Interdisciplinary Approach, Learning Materials, Interdisciplinary Approach. Learning Activities, Natural Resources, Outdoor Education, Recycling, *Science Education, Student Attitudes, Teaching Studes, Units of Study (Subject Fields), Values

This series of five environmental education units is designed for use in grades 1.5 The units

are designed around the concepts of survival, interdependence, scarcity, recyclement, rights vs responsibility, planning, valuing, social forces, and optimism. Each unit is further developed around environmental generalizations (subconcepts), objectives, activities and strategies. materials, and espected outcomes. The grade 1 unit is designed to give the child a variety of sen-sory and intellectual expertences. The purpose of the grade 2 unit is to expand the student's idea of his environment. The grade 3 unit focuses on air and the use of the senses to explore air. The Brade 4 unit utilizes an interdisciplinary approach to explore water and the water environments. The grade 5 unit is concerned with the wisest

multiple use of renewable resources and encourages the child into a commitment and involvement. Appendixes are included for each unit. (TK)

ED 10t 942 SE 018 115 95 (East Syracuse-Minoa Schools Environmental Education Materials, Middle School Package, Grade

East Syracuse · Minos Central Schools, East Syracuse, N.Y.

Spons Agency—Office of Education (DHEW).
Washington, D.C. Office of Environmental Education Pub Date [73]

Grant-OEG-0-71-4621

Note-336p, Best copy available, occasional marginal legibility

EDRS Price MF-\$0.76 HC-\$17.13 PLUS POSTAGE

Descriptors-Botany, Conservation Education. *Curriculum Guides, *Ecology, *Environmental Educanon, Grade *, Instructional Materials. Interdisciplinage Approach. Natural Resources. Education. Science A Activities •Science School Science, Teaching Guides, Umis of Study (Sub-ject Fields), Zoology ... These five environmental education science

units are designed for use in the seventh grade. Skills such as note taking, organizing information. entical thinking, analysis of data, and scientific skills, and the correlation between skills and content area are emphasized throughout the units to develop in the student a greater understanding of his role in the environment, and the interdependencies between all living things and the environment. Each unit is developed around long range objectives which reflect and reinforce the objectives of the other four units. Objectives, activities and strategies, materials, and evaluation techniques are identified for each of the five selence utilis. The first unit is basically an introduction to the series, emphasizing skills as well as introducing the student to his environment with an ecology project. Unit 2 discusses the process of pholosynthesis and the importance of green plants. Unit 3 centers on animals and their relation to others of the same and different spe-eies. Unit 4 stresses the importance of interactions between plants and animals. Human ecology is discussed in Unit 5 in light of pollution and possible solutions. Appendises and supplementary matertals are included (Author/TK)

ED 103 213 SE 017 355

Fun with the Environment. Environmental Protection Agency, Washington,

Pub Date 73 Note — 20p

Available from-Superintendent of Documents. U.S. Government Printing Office, Washington, D.C. 20402 (Stock No. 5500-00087, \$0.75, domestic postpaid, \$0.65, GPO Bookstore)

Price MF-\$0.76 HC-\$1.58 POSTAGE

Descriptors—Conservation Education, "litementary Grades, Energy Conservation, "Inviron, mental Education, Independent Study, "Learning Activitiet, Natural Resources, Pollution. Science Education

This self-contained activity booklet is designed to teach young elementary students about their environment. Information about the environment and people's interaction with it are presented in cartoon and coloring book form. Drawings and simple vocahulary explain how the environment is polluted and natural resoutces wasted, as well as ways that these situations can be corrected. Activities include an environmental crossword puzzle, coloring and write-in pages, and an environ-mental ehecklist. (MA)

ED 103 233

SE 018 514

Brine Shrimp and Their Habitat, An Environmental Investigation.

Minnesota Environmental Sciences Foundation. Inc., Minneapolis., National Wildlife Federa-tion, Washington, D.C.

Pub Date 72 Note-2 ip , Related documents are SE 018 515-

Available from-National Wildlife Federation.

1412 16th Street, N.W., Washington, D.C. 20036 (Order No. 79169, \$1.50) DRS 'Price MF-\$0.76 HC-\$1.58 PLUS POSTAGE *

POSTAGE Descriptors Elementary Education, *Elementary School Seience, Environmental Education, *Instructional Materials, investigations, Learning Activities, Natural Resources, *Science Activi-Science Education Identifiers... Brine Shamp

This environmental unit is one of a series designed for integration within the esisting curneulum. The unit is self-contained and students are encouraged to work at their own speed. The philosophy of the unit'is based on an esperience. offented process that encourages independent student work. This unit explores the life eyele of brine shrimp and the effects of the environment on that cycle. The unit contains a series of related activities that illustrate basic ecological principles of interrelationships. Teacher informa. tion such as materials needed, background information, and additional topics is given. The unit is designed for students, grades 1.5. More sophisticated investigations are given at the end of the unit. A hibbiography is included, (MA)

ED 103 235 SE 018 516 Color and Change. An Environmental Investiga-

Minnesora Environmental Sciences Foundation. Inc., Minneapolis, National Wildlife Federa-Pub Date 72

Note-17p . Related documents are SE 018 514-534

valiable from National Wildlife Federation, 1412 16th Street, N.W., Washington, D.C. 20036 (Order No. 79221, \$1.00) IRS Price MF-50.76 HC-\$1.58 PLUS Available

POSTAGE

Descriptors—Art Education, Color, Elementary Education, Elementary Grades, *Environmental Education, Instructional Materials, "Learning Activities, "Observation, "Process Education, "Science Education, Teaching Guides Identifiers—MINNEW AST," Minnesota Mathematics and Science Traching Project, SAPA,

This environmental with its one of a series designed for integration within an existing entrieulum. The unit is self-contained and requires very little teacher preparation. The philosophy of the series is based on an expenence-oriented process that encourages students to work independently and at their own speeds. This particufar unit is designed to develop the skill of observation in young children. The activities have been drawn from Science - A Process Approach and the MINNEMAST Elementary Science and Mathematics project. Students are asked to make observarions of color and color changes in natural objects, particularly Plants. Some works is done with estracted plant pigments. Teacher information concerning materials, background information, and additional topics is given. A short Dibliography is included (MA)

ED 103 237 SE 018 518 Differences in Living Things. An Environmental Investigation.

Minnesoia Environmental Sciences Foundation, Inc., Minneapolis, National Wildlife Federation. Washington. D. C.

Pub Date 71 Note-16P - Related documents are SE 018-534

Available from National Wildlife Federation. 1412 16th Street, N.W., Washington, D.C. 20036 (Order No. 79025, \$1.00)
EDRS Price MF.\$0.76 RC-\$1.58 PLUS

POSTAGE Descriptors... Elementary Grades. *Environmental

Education, *Geneties, Instituctional Materials, Intermediate Grades, Investigations, Junior High Schools, *Learning Activities. *Science

This environmental unit is one of a series designed for integration within an essiting curriculum. The unit is self-contained/and requires minimal teacher preparation. The philosophy of this series is based on an especience-unented process that encourages self-paced independent student work. The purpose of this particular unit

is to prove that variation does exist within populations. Skills employed in the unit's activities include collection techniques, quantitative measurement methods, tecord-keeping, and the use of graphs. Materials for study can be collected at a preliminary field trip or from classroom ported plants. Activities are geared for students in grades 4-8. Teacher information such as materials. 4-8. Teacher information such as materials, background information, and additional, more sophisticated topics is given (MA)

ED 103 241 SE 018 522 Nature Hunt, An Environmental Investigation.

Minnesota Environmental Sciences Foundation. Inc., Minneapolis, National Wildlife Federation. Washington, D. C.

Pub Date 72 -

Note-17p., Related documents are SE 018 514.

Available from-National Wildlife Federation. 1412 16th Street. N.W., Washington, D.C. 20036 (Order No. 79105, \$100)

EDRS Price MF-\$0.76 HC-\$1.58 PLUS

DRS Price

Descriptors - Ecology, Elementary Grades, *Environment, *Environmental Education, Instruetional Materials. Investigations. *Learning Ac. tivities. "Natural Resources. Outdoor Educa-tion. Primary Education. "Science Education. Teaching Guides

This environmental unit is one of a series designed for integration within the esisting cur-riculum "The unit is self-contained and requires little teacher preparation. The philosophy of the unit is based on an expenence-oriented process that encourages self-paced independent student work in this unit, young primary school children are encouraged to explore a natural area through outdoor activities. They work in small gloups to observe, compare, arrange, and communicate their discoveries. This investigation is set up as a game Students are given containers with natural items collected from the area and with Photographs of tepresentative sites in the area. Their goal is to identify and collect items similar to those in the containers and to identify the ateas in the photographs. All items are to be brought back to the classroom for study and eschange in-formation for teachers includes a list of materials needed, directions for the activities, and field imp preparations (MA)

ED 103 243 SE 018 524 Oaks, Acorns, Climate and Squirrels, An Environ-

mentai Investigation.

Minnesota Environmental Sciences Foundation. Inc. Minneapolis, National Wildlife Federa-tion, Washington, D. C. Pub Date 71

Note-25p . Related documents are SE 018 514-

Available from National Wildlife Federation. 1412 16th Street, N.W., Washington, D.C. 20036 (Order No. 79089, \$1.50) EDRS Price MF.\$0.76 HC.\$1.58 PLUS

POSTAGE

Descriptors - Elementary Grades. *Environmental Education, Instructional Maierials, Investiga-tions, "Learning Activities, Natural Resources, Outdoor Education, Plant Growth, Primary Education, Seience Education, Teaching Guides

this environmental unit is one of a series designed for integration within an existing entriculum. The unit is self-contained and reduites minimal leacher preparation. The philosophy of the units is based on an experience-oriented Princess that encourages self-paced independent student work. In this particular unit, oaks and acorns are the vehicle by which primary school ehildten discover the interrelationships of organisms in their environment. The unit is divided into tour parts. In the first Part, students work outside to collect and plant acorns and to noserve their development into seedlings. Nest, the students determine when acoms (all from the tives and discuver the larvae living inside them in the third pan, the role of squirrels is studied in telation to the acorns. Lastly, the effect of climate on acorn germination is determined. These activities provide background information, materials needed, directions, and additional topies for teachers (MA)

ED 103 245 SE 018 526 Plant Puzzles. An Environmental Investigation. Minnesota Environmental Sciences Foundation. ine. Minneapolis. National Wildlife Federation. Washington, D. C. Pub Date 72

Note-21p. Related documents are \$E 018 514-

Available from-National Wildlife Federation. 1412 16th Street, N.W., Washington, D.C. 20036 (Order No 79150, \$1,50) DRS Price MF-\$0,76 HC-\$1.58 PLUS

Price EDRS POSTAGE

Descriptors—*Botany. Elementary Education. Elementary Grades. *Environmental Education. Instructional Materials, Investigations, "Learning Activities, Natural Resources, Outdoor Education, "Plant Identification, "Science Education, "Plant Identification, "Science Education," cation. Teaching Guides Identifiers - Plants

This environmental unit, is one of a series designed for integration within an existing curneulum. The unit is self-contained and requires minimal teacher Preparation. The philosophy of the units is based on an espenence-oriented process that encourages self-paced independent student work. The purpose of this unit is to familiarize students with the structural organization, or pattern, of natural objects. Specifically, the students study the structure of tree or shrub brances that they have collected Students eschange branches and keep their data recorded in a branch bookler. The duplicating masters for the booklet are included in the materials. After the students have studied a variety of branches, they try to reconstruct a branch that has been disided into the parts of a plant puzzle. Additional activities include counting annual rings of trees. observing buds, and rooting branches. The activilies are geared for students in grades 1-6 A list or materials needed, directions, and background information are included for the teacher (MA)

ED 103 246 SE 018 527 Plants in the Clastroom, An Environmental Invectmation.

Minnesota Environmental Sciences Foundation. ine.. Minneapolis; National Wildlife Federa-Pub Date 71

Note-25p.: Related documents are SE 018 514-

Available from-National Wildlife Federation. 1412 16th Street, N.W.; Washington, D.C. 20036 (Order No. 79007, \$1 50) DRS Price MF-\$0.76 HC-\$1.58 PLUS

EDRS POSTAGE

Descriptors-Botany, Elementary Grades, *Environmental Education, Instructional Materials, Investigations, *Learning Activities, Natural Resources, *Plant Science, Primary Education, Science Education, Teaching Guides Identifiers--- *Plants

This environmental unit is one of a series designed for integration within the easting cur-neulum. The unit is self-contained and requires minimal teacher preparation. The philosophy of this series is based on an esperience-oriented process that encourages self-paced independent student work. This particular unit, designed for the primary grades, is an introduction to ecology Using plants that are easily grown in the classtoom, students learn about the environmental factors, such as light, water, and soil, that affect plant growth. Through the activities included in this unit, students experiment with controlling these variables, while making observations and keeping accurate dala. The plants needed for the investigation include cuttings from house plants. potatoes, bulbs, and seeds. A list of materials. directions, backgroun information, and student worksheets that can be duplicated are included for the teacher. (MA)

ED 103 247 SE 018 528 Samplint Button Populations, An Environmental Investigation.

Minnesota Environmental Sciences Foundation. Inc., Minneapolis, National Wildlife Federa-tion, Washington, D. C. Pub Date 72

Note-21p., Related documents are SE 018 514-

Available from-National Wildlife Federation.

1412 16th Street, N.W., Wast 20036 (Order No. 79098, \$1.001 Washington, D.C.

MF-\$0.76 EDRS HC.SL SR Price POSTAGE

Descriptors—*Ecology, Elementary Education, Elementary Grades, *Environmental Education. Education. Instructional Materials. Intermediate Grades. Investigations, Junior High Schools, *Learning Activities. Natural Resources *Sampling. *Science . Education. Secondary Grades. Teaching Guides

This environmental unit is one of a series designed for integration within an esisting curneutum. The units are self-contained and require minimal teacher preparation. The Philosophy hind the units is based on an experience-oriented process that encourages self-paced independent student work. This particular unit is an introduction to the techniques of sampling. Using button and bean populations, students learn various ways of sampling Neat, they learn to use this data by constructing simple graphs based on their statisti. cal analysis of the samples. At the end of the unit are eight additional activities designed for independent study. Students can investigate variations within human and plant populations and statistically study their frequency through random sampling techniques This unit is designed for students in grades 3.9 Each activity contains a list. of materials, directions, and discussion questions to aid the teacher (MA)

ED 103 248 SE 018 529. Shedows. An Environmental Investigation.

Minnesota Envitonmental Sciences Poundation. Inc. Minneapolis, National Wildlife Federa-tion, Washington, D. C.

ub Date 71 Note-17p . Related documents are SE 018 514.

Available from-National Wildlife Federation, 1412 16th Street, Nw, Washington, D Cj 20036 (Order No 79034, \$100) EDRS *Price MF-\$0.76 HC-\$1.58 PLUS

HC-\$1.58 PLUS POSTAGE

Descriptors - *Beology. Elementary Education. Elementary Grades. *Environmental Education. Instructional Materials, Investigations, *Learning, Activities, *Light, Natural Resources, *Science Education, Teaching Guides Identifiers--- *Shadows

This environmental unit is one of a senes designed for integration within an existing outriculum. The units are self-contained and require: minimal teacher Preparation. The philosophy ber bind the units is based on an experience-priented process that encourages self-paced independent work This unit on shadows is designed for all elementary levels, grades 1-8. The activities become progressively more sophisticaled, making some more suitable at different levels. In the first section, the goal is for students to explore the concept of spatial relationships through play aethytics with shadows. The games include shadow tag and keep away, shadow Plays, and mystery shadows. The activities of the second section are concerned with shadows caused by sun and earth movements, and with the effects of shade on the life of plants and animals. Activities include studying the passage of time as indicated by shadows, determining the height of a pole by shadow calculations, and investigating the effects of shade on Breen plants. Each acrivity in the unit includes a list of materials needed, directions, and questions for discussion (MA)

ED 103 249 SE 018.530 Snow and Ice. An Environmental Investigation.

Minnessia I nuironmental Sciences Foundation, Inc., Minneapolis, National Wildlife Federa-tion, Washington, D. C. Pub Date 71

Note-25p . Related documents are SE 018 514.

Available from-National Wildlife Federauon, 1412 16th Street, N.W. Washington, D.C. 20036 (Order No. 79052, \$1.50)

Price MF-\$0.76 HC-\$1.58 PLUS **EDRS** POSTAGE

POSTAGE

Descriptors—*Ecology, Elementary Education,
Elementary Grades, *Environmental Education,
Instructional Materials, Investigations, *Learn,

The Country of the Coun ing Activities. Natural Resources, Outdoor



Education. Science Education, Teaching

denufiers—Ice . Snow. "Weather"

This environmental unit is one of a senea designed for integration within an esisting cur-riculum. The unit is self-contained and requires. minimal teacher preparation. The philosophy behind the series is based on an expenence-oriented process that encourages self-paced independent student work In this unit, students study the physical properties of snow and ice in relation to water, heat, the environment, and themselves, it -4 is a goal of this unit that, by learning more about the behavior of water and its environmental influences, the students will become involved endugh to recognize water as a vital source of life and want to protect it. Activities, designed for the elementary grades, are generally done outside. Students observe snowliskes, make cross-sections of snow banks, study snow density and make snow Paintings. Bendes these, there are numerous other snow activities that guide students to the goal of this unit. Each includes a list of materials, background information, and directions for the teacher. (MA)

ED 103 252 SE 018 533 Tile Patterns and Graphs, An Environmental Investigation.

Minnesota Environmental Sciences Foundation. Inc., Minneapolis, National Wildlife Federa-tion, Washington, D. C. Pub Date 72

Note-17p., Related documents are SE 018 514-

534

, 334 Available from—National Wildlife Federation, 1412 16th Street, N.W., Washington, D.C. 20036 (Order No. 79141, \$1,001 EDRS Price MF-S0.76 HC-S1.58 PLUS

POSTAGE

Descriptors-Elementary Grades, *Environmental Education Graphs, Instructional Materials, In-vestigations, "Learning Activities, "Mathe-matics Education, Natural Resources, Primary Education. "Sampling. "Science Education. Teaching Guides

This environmental unit is one of a series designed for integration within an existing curnettlum. The unit is self-contained and requires minimal teacher preparation. The Philosophy of the series is based on an experience-oriented process that ensourages self-passed independent student work. This unit is an introduction to sampling for young primary sent of students. Using different colored tiles, students leam to create patterns that will eventually be specific enought to form graphs in this was the children will be able to make a graphic representation of their random ramples. Also included in the activities are elementary discussions on the validity of using samples to represent the whole. A list of materials needed, directions, and graph paper for a duplication are a pan of the unit (MA)

ED 116 904 SE 019 194 Ministere Environments, An Environmental Education Guidebook, Revised Edition.

Bureau of Outdoor Recreation (Dept. of Inter-or), Washington, D.C. Pub Date [74]

Nute=32p., For an earlier edition, see ED 046

Available from - Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (Stock No. 2416-00069, \$0.80) EDRS Price MF-50.76 HC-\$1.95 Plus Postage

Descriptors—Ecology, Elementary Grades, Environment, *Environmental Education, *Instructional Materials, *Learning Activities, Natural Resources *Colonia October 1988 Resources, •Science. Projects. *Teaching Guides

The purpose of this booklet is to bring into the classroom the ecological processes and principles that underlie nature. Students get the opportunity to work with natural objects and to learn about the principles that ecgulate them. In this revised edition, a number of publications have been compiled and printed under one title. The booklet is designed to help the teacher by supplementing estating programs with these student-oriented activities. The information includes sumple directions on how to build a number of different terrestrial and aquatic microenvironments, as well

as the ecological principles behind their construc. tion and maintenance. All materials are common and easily purchased, including the contents of the terraniums and turtle ponds. There are a number of diagrams and photographs to illustrate the procedures and principles being discussed.

096 611 QE 88 SE 020 012 Elementary Environmental Learning Packet K-3.
Second Revised Edition | Primary CEL Blocks. Teacher's Guidel.

Brevard County School Board, Cocoa, Fla Spons Agency—Brevior of Elementary and Secondary Education (DHEW/OE), Washingiun. D.C

Pub Date (75) Note = 13 p For the related Intermediate Learn-ing Packet Nee 56 030 013

EDRS Prier MF-\$0.83 HC-\$7.35 Plus Postage Descriptors—"Elementary Grades. "Environmental Fiducation "Instructional Materials, Learning Activities, Outdoor Education, "Primary Grades, Science Activities, "Teaching Guides Identifiers - Elementary Secondary Education Act Little III, FSEA Title III

This environmental education Program consists of two levels primary and intermediate material in this publication encompasses the promary toyel. The learning materials are activitybased and incorporate process and subject area skills with knowledge and concern for the enestnoment the program is also interdisciplinary including activities and skills from art, language arts, mathematics, music, science, and sucial studies. The activities in this primary set center on sensory awareness, basic ecological concepts, and developing privitive attitudes toward the environ. ment the materials consist of student activity cards, student information cards, and the teacher's guide. Each activity card introduces the environmental concept and lists activities and an informal evaluation. The eards are non-graded and non-sequential. The teacher's guide cuntains overall leaching suggestions and suggestions by eard. It also includes references for each card and four indexes on subject, subject area and process skills, information eards, and outdoor activoties. (Author/MR)

ED 119 961 88 ED 119 901 58 5E 020 015
Elementary Environmental Leatning Packet
Grades 4-6. Second Revised Edulon, [Intermediate CEL Blocks, Teacher's Guide].
Bretard County School Board Cocus, Fla
Spons Agency. Bureau of Elementary and
Secondary Education (DHEW.OE). Washing.
ton, D'C

Pub Date [75]

Note—163p. For the related Primary Learning Packet, see SE 020 012 EDRS Prior MF-50 83 HC-58 69 Plus Postage

Descriptors... *Etementary Grades *Environmental Education. *Instructional Materials. *Intertal Education, "Instructional profession mediate Grades, Learning Activities, Outdoor Education, Science Activities Guides

Identifiers-Elementary Secondary Education Act

Title III, ESEA Title III

This environmental education program consists of two levels primary and intermediate. The material in this publication encompasses the intermediate level. The learning materials are activit) based and incorporate process and subject area skills with knowledge and concern for the environment. The program is also interdisciplina. ry including activities and skills fmm art. langhage atts, mathematics, music, science, and social studies. The activities in this intermediate set center on exploration of the environment, identifying and solving environmental problems, and developing positive attitudes toward the environ. ment The materials consist of student activity cards, student information eards, and the teacher's guide Each activity card lists the environmental problem, suggestions for investigating the problem, and an intormal evaluation. The cards are non-graded and non-sequential. The teacher's guide contains overall teaching sug-gestions and suggestions by eard. It also includes references for each eard and Your indexes on sub. jeet, subject area and process skills, intermation cards, and outdoor acrivities (Author/MR)

ED 121 566 88 SE 019 333 Bennett, Dean B Willink, Wetley H.

Environmental Education Teacher's Guide, Junior High School. A Core Esperience Study of the Natural Environment.

Maine Environmental Education Project. Yarmouth.

Spons Agency-Bureau of Elementary Secondary Education (DHEW/OE). Washingion, D'C. Pub Date 75

Note-75p. For telated documents, see SE 019

Available from-Maine Environmental Education Project, Intermediate School, Yarmouth, Maine 04096 (free)

EDRS Price MF-\$0.83 HC-\$3.50 Plus Postage

Descriptors—Curriculum Guides, "Environment, "Environmental Education, Field Trips, Junior High Schools, Learning Activities, "Secondary Education. Skill Development. Teaching Guides, "Water Resources

identifiers-Elementary Secondary Education Acty

Tulc III, ESEA Title III
This Environmental Education Teacher's Guide, developed for use in the junior high school, is designed to familiarize, teachers with how an environmental education program can help in their teaching and in achieving the goals of the school. The suggested core activities in this guide are designed to be a motivating way of in-iroducting junior high school students to a practi-cal understanding of the natural environment. The activities focus on those factors important in evaluating the stability of natural ecosystems and thereby identify areas sensitive to human development. The practicality of the unit is enhanced by the application of stability concepts in the contem of a watershed. The activities have been devised to develop specific understandings. feelings and skills Basic concepts, attitudes, objectives and skills are identified and a pre-post text is included to help the teacher assess educa-

SE 021 180 A Teacher's Introduction to Energy and Energy Conservation: Elementary,

Battelle Memonal Inst. Columbus. Ohio Center for Improved Education. Ohio State Dept. of Education, Columbus

Spons Agency—Office of Education (DHEW).
Washington: D.C.
Pub Date 75

tional outcomes (BT)

For related document. SE021181. Photographs may not reproduce well

Available from-Division of Education Redesign and Renewal, Oluo Dept. of Education, 65 South Front St., Columbus. Ohto 43215 (no price quoted)
EDRS Price ME-\$0:83 HC-\$4.67 Plus Postage.

Descriptors - Curriculam, Elementary Education.
*Elementary School Science, *Energy, *Energy

Conservation, General Science, Instructional Materials, Science Education, Guides

Identifiers - Ohio

This document is intended to give the elementary school teacher background information and general suggestions for teaching units and correlated learning activities related to energy and energy eonservation. Sections are directed to A Problem Shared by Ail, Causes, What is Energy? Energy Sources, Searching for Solutions, Conservation An Ethic for Everyone, a glossary, and an extensive bibliography (MH)

ED 128 081

PS 008 759

Wilkerson, Peggy Camp. Janet Winter: Unit Mannal Five, Corriculum Guide.

George Peabody Coll for Teachers, Nashville, Tenn. Demonstration and Research Center for Early Education

Spons Agency- National Coordination Center for Early Childhood Education, 5t Ann. No Na nonal Institutes of Health (DHEW), Bethesda, Md. Bureau of Health Professions Education and Manpower Training, National Inst. of Education (DHEW). Washington, D.C.

Pub Date 72 Contract __ NPECE.70-006

Grant_OEO-CG-9995

Note-13Sp., For other manuals in this senes, see

PS 008 7\$g.763 Available from-CEMREL, 3120 59th Street, St Louis, Missouri 63139 (Paper, \$2.50) EDRS Price MF-\$0.83 HC-\$7.35 Pius Postage.

Descriptors - Basic Skius. *Cogniuve Develop-ment, Concept Teaching. *Curriculum Guides. *Early Childhood Education, *Environmental Education. *Instructional Materials. Learning Activities. Natural Sciences, Pesceptual Motor Learning*Resource Guides, Science Units, Skill Development, Teaching Techniques, Thought Proce ties

Identifiers- DARCEE. Holidays. Winter

This is number five in a series of resource manuals consisting of 11 sequenced curriculum guides developed by the Demonstration and Research Center for Early Education (DARCEE) for use in early childhood education programs Emphasis is placed on the development of sensoty, abstracting and mediating, and response skills. The projected order of the entits is (1) All About Me. (2) Plants. (3) Autumn. (4) Home and Family. (3) Winter. (6) Forest Animals. (7) Neignborhood and Community. (8) Fam Animals. (9) Spnng. (10) Transportation. (11) Farm Crops Esch unit is intended to build upon skills developed to preceding ones. The fifth unit, "Winter," is primarily a science unit. The major content objectives are to expand the child's understanding of people and plants and to increase, awareness of environmental changes. The suggested time for the unit is three week. Instruc-tional activities are presented side by side with basic skills to be developed. A list of instructional materials and their sources is given. Appendix includes Patterns for teacher-made materials (MS)

ED 128 163

SE 020 720

Schlenker, Richard M. As Introduction to the Marine Environment: A Mini-Unit. Pub Darc (76)

Note-20p; Not available in hard copy due to marginal legibility of original document DRS Price MF-\$0.83 Plus Portage. HC Net

Available from EDRS.

Descriptors Biological Sciences. Curriculum. Ecology, "Elementary School Science. Environment. "Instructional Materials." Marine Biological Sciences and Company of the Com

This unit is designed to introduce the marine environment to those with little or no previous related background. Students define the marine environment, partiespate in group discussions, view movies, investigate oil spills, and write environmental impact statements. The first three sessions are designed to take three hours with the composition of the remainder of the unit left to the needs of the individual instructors, facilided are acumues and suggested alternatives, selected references, vocabulary, and suggestions for further study. This unit is especially intended for the instruction of luture and practicing teachers.

ED 133 144

SE 021 459

Lordon Suc Bockman, Judi Leological Smorgachord A Balanced Reading Day, [Project FC Ology FLE Pak, Lordin & Backman Pak).

Highlim Public Schools Scattle, Wash Sports Agency—Bureau of Elementary and Secondary Education (DHEW/OE). Washington, D.C. Pub Date [76]

Note = 40p. For related documents, see SE 021 438 478 Contains occasional light type Acailable from = Highling Public Schools, Instruc-

Acailable from—Highlin, Puolic Schools, Instruc-tional Distrion, Project ECOlogy ESEA Title III Bill Gipse, Director 15675 Ambaum, Blvd., S.W., Scattle, WA 98166 (\$2.30) EDRS Price MF-30.83 HC-32.06 Plus Postage, Descriptors—"Ecology, "Elementary Education, "Elémentary School Seignee, "Fravironment, Environmental Education, "Instructional Materials," "Reading, Units of Study (Subject Fields)."

Identifiers - Elementary Secondary Education Act
Title III. ESEA Title III

This is one of a series of units for environmenral education developed by the Highline Public Schools. This material was baueally designed to be oved as an individualized reading kit for the

interinediate grade student. The books in this kill readily lend themselves in a supplementary reading program as part of a science unit. Depending on a teacher's needs, this kit can be used for a whole class or fot selected individuals. For each of approximately 20 books there is a short sum. mary of the book, some possible conference questions for the teacher, and some student activities (RH)

ED 133 150

SE 021 463

ECOLORY ELE Pak, Wright Pak). Highline Public Schools, Scattle, Wash

Spons Agency—Bureau of Elementary and Secondary Education (DHEW, OE), Washingtôn. D C

Pub Date [76]

ote-23p. For related documents? see SE 021
438.478. Contains occasional broken type Available from-Highline Public Schools, Instruc-tional Division, Project ECOLogy ESEA Title Ht. Bill Guise. Director. 15673 Ambaum Blvd., S.W., Seattle W.A. 98166 (52.50) EDRS Price MF. \$0.83 HC-\$1.67 Plus Postage.

Descriptors-Air Pollution Control. *Elementary Education. *Elementary School Science. *Encitonment. Environmental Education. *Instruc-(Subject Fields)

Identifiers-Elementary Secondary Education Act

Tale III, ESEA Tale III

This is one of a series of units for environmen. tal education developed by the Highline Public Schools. The lessons in this unit are designed to help students discover causes, effects, and results of air pollution through involvement in various aenvitles, it is recommended for intermediate grade elementary school pupils. The unit can be used independently, but it is recommended for use with or following the unit entitled 'It's All in the Air." The materials were tried and evaluated, evaluation data may be obtained from the Highline Public Schools (RH)

ED 137 063

SE 021 301

Marine Activity Dynamics (M.A.D.), Unit S.
Rhode Island State Dept of EducaProvidence, Education Information Center. Education. Pub Date (76)

Note—29p. Not available in hard copy due to marginal legibility of original document EDRS Price MF-30.83 Plus Postage, HC Not Available from EDRS.

Descriptors-Biological Sciences. "Curnculum Development, "Curneulum Guides, "Elementary Grades, Environmental Education, Grade \$. Instructional Materials Learning Activities,
"Oceanology, Science, Education
Identifiers—"Rhode Island

This curriculum guide describes an activityoriented marine study program, deligned for use with middle school children (grade 5). The content focuses primarily upon the life sciences, with some amphasis on chemistry and geology Following the development of a rationale for the inclusion of marine sciences in the school curnculum. a middle school/marine science educational philosophy is presented. The basis for the selection of marine science education topics is detailed. Lesson topics include, manne biology, fish adaptations, studies in unusual fish, commer. cial and soft-bone fish, marine geophysics, repules and mammals of the sea, waserlowl, conchology, algae, cePhalapods, and erustaceans, Objectives are specified and concepts identified for each topic. Several individualized student learning packets are described. Sections on water pollusion and chemical ocean studies concluda this guide. (BT)

ED 138 461

SE D22 416

Callaghan, Sara \$ Down Where the Water Is: A Coastal Awareness Activity Book, Marine Bulletin No. 22. Rhode Island Coastal Resources Management

Council, Providence

Spons Agency—National Oceanic and Atmosphene Administration (DOC), Rockville,

Report No--MB-22 Pub Date [77] Grant -FRC IGA-01-07 Note-26p : For related Teacher's Guide, see \$E

Available from-Rhode Island Coastal Resources Management Council, 83 Park Street, Providence, Rhode Island 02903 (no price quoted)

EDRS Price MF-30.83 HC-32.06 Plus Postage.
Descriptors—"Elementary Education, "Elementary School Science, "fastructional Materials. Manne Biology. *Natural Resources. Science Education. *Science Materials. *Water Education. Science Resources, Workbooks. Identifiers. Rhode Island

This activity booklet was prepared as part of the Rhode Island Coastal Resources Management Council's public education program It was designed to inform youngsters about the im-portance and use of coastal resources. Line-drawn pictures of coastal activities may be employed in a variety of ways to promote, discussion and an awareness of the coastal environment. The last two pages of the activity booklet contain cut-out sentences that may be pasted below their corresponding pictures (CS)

ED 138 462

SE 022'417

Callaghan, Sara S
Teacher's Activity Guide to Coastal Awarene
Marine Bulletin No. 23.

Rhode Island Coastal Resources Management Council Providence

Spons Agency-National Oceanic and mospherie Administration (DOC), Rockville, Md

Report No-MB-23 Pub Date 77

Pub Date 77
Grant—FRC-IGA-01-07
Nore—90p, For related Student Activity Book, see SE 022 416; Page 57 removed due to copynght restrictions; Contains occasional light and broken type available from-Rhode Island Coastal Resourcea

Available from—Rhode Island Coastal Resourcea Management Counctl, 83 Park St. Providence. Rhode Island 02903 (no price St. Providence. Rhode Island 02903) (no price St. Price MF-\$0.83 HC-\$4.67 Plus Postage. Descriptors—"Elementary Education. "Elementary School Science. Manine Biology. "Natural Resources, "Oceanology, Science Education. "Teaching Guides, Water Resources Iduation "This teacher's guide was prepared for use with "Down Where the Water Is, A Coastal Awareness Activity Book," as part of the Rhode Island Coastal Resources Management Council's public education program Contained are instructions on education program Contained are instructions on the use of the Activity Book, page-by-page, with glossanes, activity ideas, resources, places to usit, and notes identified where relevant Activity ideas are multi-disciplinary in nature, with lour general subject areas specified (1) language arts. (2) science and mathematics. (3) social studies. and (4) art and music Pictures in the Activity Book are designed to promote discussion in the elementary school elassroom of people, places, and things relating to the coastal environment (CS)

SE 022 821 Environmental Studies Center Teacher Books. 6th

vironmental Studies Center 3 Pub Date 76

Note-90p. For related documents, see SE 022 815-823. Not available in hard enpy due to marginal legibility of original document

Available from-Environmental Studies Center. 2900 NE Indian River Dr., Jensen Beach, Florida 33457 153 00, all 9 books \$20 007 EDRS Price MF-\$0.83 Plus Postage, HC Not

Available from EDRS.

Descriptors....Curriculum Development. *Ecolo-av. Elementary Education. *Flementary gy. Elementary Education. *Flementary Gradea, *finyironmental Education, Grade 6. Instructional Materials, Learning Activities, Nature Centers, *Oceanology, Outdoor Educa-tion, *Teaching Guides Identifiers—*Eduaries, Florida

This teacher's guide, one of nine teacher packages developed for use in the sequential hands-on, field-oriented, K-B environmental edu, cation program of the Martin County Schools in Florida, was developed for use with elementary children in grade six prior to and after a visit to an environmental studies center located near an estuarine area. The grade six program centers



around the theme "River Incestigations" and includes the use of a survey boat to investigate the siltation of a river bottom, changes in salinuy. and other factors of the estuarine ecosystem. This guide contains teacher instructions, scripts, tests with keys, and a copy of all student materials.

Three slide/tape programs are not included General and specific program objectives are stated and a program outline, including learning activities to be completed at the school and environmental studies center, is detailed (BT)

ED 145.845 IR 005 30F ED 145.845 And Othern Staff Public Library, Washington Linky, Seattle School of Library. ship Pub Date 76

Note—48p. Appendix B may be marginally legi-ble due to Print quality EDRS Price MF-\$0.83 HC-\$2.06 Plus Postage.

Descriptors—Intervice Education, *Library Education, Library Planning, Personnel Evaluation *Public Libraries, *Staff Improvement

Through an agreement between the School of Librarianship of the University of Washington and the Seartle Public Library (SPL), an on-going with the Seather Public Library (S.F.), an origining system for staff development at SPL was implemented. The study contains four parts (1) the receased methodology used to identify staff developmental needs, (2) the needs identified (3) the elements, of a staff developmental system, and (4) how to implement that system at SPL. The developmental needs were identified through individual interviews, a written questionnaire, and group discussions. Needs common to all staff-cluster around training that will enhance communication, management, professional expertise, and personal relations with staff and clients. Assessment of staff needs will be accomplished by companing present staff capabilities with established staff goals and plans for achieving these goals such as 11) position descriptions. (2) position specifications. (3) selection of personnel. (4) perspecifications, (3) selection of personnel, (4) per-formance review, (5) formal assessment, and (6) the Annual and Long-Range plans. A Staff Development Planning Group will be established to refine library goals' through consultation with staff and in conjunction with the administration and Board of Trustees. Appendices tabulate the staff development needs in categories for group decision (Author/AR). discussion. (Author/JAB)

ED 146 044 SE 023 262 Bakke. Ruth

Energy Conservation Activity Packet, K-2., lowa State Dept. of Public Instruction, Des Moines: lowa State Energy Policy Council, Des Moines

Pub Date 77 Note-83p; For related documents, see SE 023, 263-266, Energy Activities, Primary K-2 Gameboard 1 and Posters 1 and 2 removed

Gameboard 1 and Posters 1 and 2 removed Available from—lowa Energy Policy Council, State Capital Complex, Des Moines, Iowa 50319 (\$10.00 a set)

EDRS Price MF-\$0.83 HC-\$4.67 Plus Postage.
Descriptors—*Elementary Education. Energy.
*Energy Conservation, Environmental Education. *Instructional Materials, *Natural Resources, Primary Grades, Resource Materials, Science Education, *Teaching Guides, Values.

This book was developed in response to the concern for energy conservation. It contains actwittes that stress an energy conservation ethic and includes many values olarification activities for grades K-2. The teacher is provided with some background information on energy, an extensive teacher's annotated bibliography, and a list of resources. The topic of energy is divided into concepts and objectives, with activities inter-spersed where appropriate There are over 40 pages of ditto and transparency masters, two proters, and a game for the teacher's use Also, included is an evaluation sheet for the teacher to assess the activity packet (MA)

ED 146 048 -SE 023 266 Bakke. Ruth Energy Conservation Activity Packet. Grade 6.

Iowa State Dept. of Public Instruction, Des.

Moines: Iowa State Energy Policy Council,

Motnes.
Des Motnes.

Note-102p.; For related documents, see SE 023

262-265 202-205
Available from—lows Energy Policy Council,
State Capital Complex, Des Moines, Iowa
50319 (\$10 00 a set)
EDRS Price MF-\$0.83 HC-\$6.01 Plus Postage.

"Elementary Education, Energy,
"Energy Conservation, Environmental Education, Grade 6, "Instructional Materials,
"Natural Resources, Resource Materials,
Science Education, "Teaching Guides, Valdes

This activity packet for grade 6 is one of a series developed in response to the concern for energy conservation. It contains activities that stress an energy conservation ethic and includes many values clarification activities for grade six. The packet is divided into two parts and provides the teacher with background information, concepts and objectives, and activities for each part. Part one is concerned with the limits of energy sources and part two with differnative energy sources. Two annotated bibliographies, one for teachers and the other for students, are also in-cluded. The teacher is provided with ditto and transparency master pages for duplication. An evaluation sheet and a listing of resources are also a part of this activity packet. (MA)

ÈD 148 581 🕯 Spencer, Richard May Onic, Eleanor
The Good Bugs and the Bad Bugs.
Environmental Protection Agency, Washington, Pub Date 77

Soic-bop EDRS Price MF-\$0.83 HC-\$3.50 Plus Postage. Descriptors - "Elementary Education. Finationmental Education. Field Vintructional Materials, Learning Activities, Outdoor Education, Resource Materials, Outdixor Education, Resource Materials, Science Education, Science Experiments, · Touching Guides

Identifiers - Environmental Protection Agency This activity package is designed as a resource for the classroom teacher. It contains numerous activities, experiments, and demonstrations in en. vironmental education for the elementary grades

Numerous field tops are described. Each activity meludes objectives, suggested materials, sug. good methods, and a description of the activity Where indicated, illustrations are gives. Resource information, such as appropriate films, films, rips, hooks, and periodicals, is included for the classmoni teacher (MA)

ED 149 986 Enstronmental Education, Values for the Future:

Jihnms State Office of Education, Springfield.
Spone Agency—Bureau of Elementary and
Secondary Education (DHEW/OE), Washings
ton, D.C. Pub Date 77

Grant—IOE-551-2-75 Note—44p For related documents, see SE 023 44x.457 and SE 023 459-465, Contains oceasional light and broken type EDRS Price MF-\$0.83 HC-\$2.06 Plus Postage.

EDRS Price Minorman (Environment),
Descriptors—Conservation (Environment),
*Ecology, *Examentary Secondary Education,
*Instruction

*Instruction

**Instruction

**Instruct Schools *Natural Resources, *Science Educa-

tion Teaching Guides .
Identifiers Elementary Secondary Education Act Late III

This booklet on ecosystems is one of a senes in environmental education for grades K-12. Activitice in this bookter are enneerned with the complexite of ecocceteme, energy forms and transfer in econociomic and offess capacity of eensystems Sis - busic concepts are living along with behavioral inspectives, subject areas, key words, and definitions for each. Three activity options deschip the basic concepts information for these activities includes materials and resources, procedures discussion questions, further activity lies, and sample worksheets. The activities are interdisciplinary and designed for students in grades 68 INAL

EC 103 891 ED 150 783 Demaray, Bryan ROJEUT SUCUESS: Marine Science, Introductory Packel, Rulic Marine Science Laboratory Techniques, Oceanographic Instruments, Individual Projects, Bihliographyt.
North Kusap School District 4tht Pindibo Wash
Spom Agency—Bureau of Elementary and
Secondary Education (DHEWA)F). Washington, D.C. Pub Date 77

Note-165p. Print on some pages is marginal and may not reproduce well in hard copy. For related information see ECP1612 ANY 893 and EC 103 997

Available from-North Kusap School Ostrief 400, 150 High School Road South, Poutsbo Washington 98370 (\$3.00)

EDRS Price MF-\$0.83 HC-\$8.69 Plus Postage. Descriptors-Academically Gifted Clace Activiness, Curriedium Guides, Elementary Educa-tion, Enrichment Program, "Caffed I Garning Activities, "Marine Biology, "Science Activi-ties, Science Instruction Teaching Methods

Five packets comprise the manne science com. ponent of an enrishment pringram for gifted elementary students Considered in the introductors section are identification type-post measured procedures. Remaining packets address the following topics (subtopics in parentheses) base marine science laborators techniques (pherioscope techniques and metric usage), col-lection and observation techniques (slassification of marine animals and plants), occanographic instrumente (water quality sampling and hedrographic studies), and ideas for individual student projects: A hishingraphy lists approximately 25 books and 1(#) films/filmstrips (CL)

ED 152 531 Science Activities in Energy: Lonservation.
California Univ. Berkeley Lawrence Hall no Science, Oak Ridge Associated Universities. Tenn

Spons Agency-Department of Energy, Washing. Report No-EDM-1049 Pub Date 77

Note-32p , For related documents, see SE 024 005-008 EDRS Price MF.\$0.83 H.C-\$2.06 Plus Postage.

Descriptors... "Conservation (Environment). Elementary Education, "Elementary School Science, "Energy, "Environmental Education, Instructional Materials. Laboratory Experiments, "Science Activities, Science Education. Science Units

Presented is a science activities in energy package which includes 14 activities relating to energy conservation. Activities are simple, concrete experiments for fourth. Afth and sisth grades, which illustrate principles and problems retaining to energy Each activity is outlined in a simple eard which is introduced by a question. A teacher's supplement is included (SL)

ED 154 999 SE 024 223

Braver, David And Others Energy Activities for Junior High Science. Mennesota State Dept of Education Minnesota State Energy Agency, St. Paul. Pub Date Apr 77

Note - 24p. Not available in hard copy due to colored pages throughout entire document EDRS Price MF-50.83 Plus Postage, IIC Not Available from EDRS.

Descriptors—Cognitive Processes. Energy.
"Energy Conservation, "Environmental Education, "Inquiry Training, "Junior High School
Students, "Science Activities, Science Education, Secondary Education, Skill Development

This document is a collection of six energy education activities for prince high school scenee its purpose is to help prumote knowledge about energy, provide laboratory experiences, provide induiry, and relate energy to society through the telence curriculum. The six activities are designed to take une to three class periods. Two of the activities have activity options included Each activity provides some background information, an activity description including a materials list, evaluation questions, and a resources list Several, activities also include student worksheets Activities are (1) Star Power, (2) Energy Whatti) is It. (3) Rube's In(nova)tion, (4) Killerwatts. (5) Se/avenging Energy, and (6) What II * The skills that they acusines are intended to reach include hypothesis formation, collecting and analyzing data, observation and inference decision making, chart and



table reading, and the application of science to other areas of life $\{MR\}$

ED 146 478

SE 024 439

Ritravato, Lou Kids, Wildlife and Their Environment: An Ele-manuacy Teachers' Guide to Wildlife Activities. Pub Date [78]

Note ... 84p EDRS Price MF-\$0.83 at C-\$4.67 Plus Postage.

Descriptors—Changing Attitudes, Learning, Elementary Education Learning, Environmental *Experiential Education. Learning, Instructional Materials, Interdisciplinary Approach, *Outdoor Education, Science Activities. *Teaching Guides, *Wildlife Management

This leachers' guide was written in an effort to get elementary school students to "turn on" to tisture and to develop positive attitudes toward the environment. The majorials are divided into three sections. Section one consists of activities revolving around the Environment, Wildlife, Man and the Environment Concepts, objectives, needed materials and approximate length of time for the activities are given Many of the activities are discovery-oriented, often requiring students to use their senses to complete the activities second section contains less detailed scrivities that can be used to supplement the activities in the first section in this second section the activities have been estegorized by discipline. The third section is a collection of teaching resources including publications, periodicals and films to supplement the activities. The authors encourage, teachers to modify and adapt the materials in this publication to fit their own needs and imagination. (MR)

ED 157 680

SE 022 813

Schmiess, Elmir

Capturing Soine Energy in the Classroom with Plants.

North Dakota Univ. Grand Forkt. Center for, Teaching and Learning. Pub Date May 77

Note-15p . For related document, see ED 183 236. Not available in hard copy due to marginat legibility of original document

ginal regionity of original document
Available from Insights. Center for Teaching
and Learning, Corwin Hall, University of North
Dakota, Orand Forks, North Dakota 58202
(annual subscription \$3 50) Journal Cit.-Insights Into Open Education, v9

n8 May77 EDRS Prica hiF-\$0.83 Plur Postage. HC Nat

Available from EDRS.

Available from EDKS.

Descriptors Botany. Elementary Education.

*Elementary School Science, Environmental Education, *Instructional Materials, Natural Resources, *Open Education, *Resource Materials, *Science Activities, *Science Education, *Sci tion, Soil Science

This newsletter is published eight times during " the academic year for reachers in an open educa-tional sesting. This issue is concerned with the plantaged its environment. Activities explore different types of soils and their implications for indoor gardening, plant propagation techniques, and preparation of potting soils Each activity provides an introduction, materials his, procedures, and vocabulary word hist. Further pages in the newletter list numerous sources for plants and materials, giving names and addresses foreach. This source list also includer books and book series for students and teachers (MA)

ED 157 771

Columbia County Kindergarten Center EovironJuneantal Study Area Guide. Florida State Dept of Education, Tallshasset, Of-

fice of Environment Education

Pub Date 74

Note - 36p. EDRS Frica MF-\$0.83 HC.\$2 96 Plus Portage.

Descriptors Acoustes, Biological Sciences, Curriculum Guides, Elementary Education. *Environmental Education *Inscruetional Marcrials, *Kindergarien, *Natural Resources, Soil Science. *Teaching Guides. Zoology

The guide lists seven program objectives and Is activities guides for meeting the objectives. Inctuded in each activity is an introduction, out-door activity, classifoom activity, and evaluation Sample, activities are Apimals Use Natural ferences to provide Food and Shelter, Dif, ferences in Soil, Decomposition, Man-made or Natural Objects. Food Chains, and Natural Sounds The guide is illustrated with drawings. (Author/RH) Materials to Provide Food and Shetter, Dif.

ED 167 409

SE 026 798

Premo. Joe And Others Energy Education in Elementary Science: Elementary Science Study.

Minnesota State Energy Agency, St. Paul. Pub Date -Oct 78

Pub Type—Guides Classicom Teacher (052)
EDRS Price MF-\$0.83 HC-\$3,50 Plus Postage,
Descriptors—*Curriculum Enrichment, Element. *Science Activities, Science Course Improvement
Project, Science Education

Identifiers- *Elementary Science Study, *Energy

Education, Minnesota Elementary Science Study (ESS) units were examuned by elementary teachers on a science writing team to identify energy education concepts within the existing curriculum in Minnesque. The outline of energy education concepts is given here along with some energy education science activities for ele-mentary students. The activities are structured into a three-level sequence of lessons, exploration, label-ing, and application. While some activities were written by team members, other activities have been adopted from ESS materials (MR)

ED_167 410 SE 026 799

Lind, Jackis Prema, Joe Energy Education in Elementary Science: Science Curriculum Improvement Study.

Minnesota State Energy Agency, St. Paul Pub Date-Oct 78

Note—93p; For related document, see SE 026 798
Pub Type— Guides - Classroom - Teacher (052)
EDRS Price ME.50.83 HC-\$4.67 Plus Postage.

Descriptors—Biological Sciences, "Concept Teaching, "Curriculum Emichment, "Elementary Education, "Energy, Physical Sciences, "Science Course Improvement Project, Science Education,

Scientific Concepts o Identifiers—*Energy Education, Minnesota This looseleaf teacher's manual is designed to facilitate using Science Curriculum Improvements Study (SCIS) for energy education in elementary schools. It is intended to be used with the SCIS-Teacher's Guide as a supplement. The format of this manual matches a main SCIS concept with a closely related energy concept. Mannees show matched concepts for each unit. Short elaborative paragraphs are given for each matebed concept for the life science and Physical science units to serve as teacher preparation. (Author/MR)

ED 167 421
Odeil-Fisher, Ellen Grese, Royald N
Seaving the Yea, A Curriculum Guide in Marine

Education for Grades Two and Three. Virginia Inst. of Marine Science, Gloueester Point

Spons Agency,-National Oceanie and Atmospnetis Administration (DOC), Rockville, Md National Sea Grant Program

Pub Date--78... •

Available from-Marine Education Center, Nirginia Institute of Marine Science. Gloucester

Point. Nirginia 23062 (5200)
Pub Type—Guides Clausroom Teacher (852)—Guides Clausroom Learner (951)
EDRS Price MF-50.83 HC-33.50 Plus Postare.
Descriptors—Biology Elementary Education.
"Elementary School Science "Environmental Education "Marine Biology. "Oceanology. Price Marines Colony. Price Houston. "Science Activities. Science Education. Zoology & This is a curriculium guide in marine education for the

grades two and three. It gives information for the setup and maintenance of matthe auditers, as well as information on the care and febbing of matthe. animals. The unit should take about three of four animals. The unit should take about (fire of Rair weaks, A facendar is given showing the amount of time needed for each part. The guide is divided into seven farts ent act. 11) Setting Lp. (21) Observing Muche Animals. (3) Inferring About Manne Animals. (4) Classifying Beings in Things, (5) Inferring About Parts of Living Things 16) Problem Sciving.

and (7) Evaluation. Each section contains two to four student activities. A list of related books and films are also given for each section (BB)

SE 036 870

Flick, George J.
Discover the Atlantic Ocean; An Exciting Coloring ok of fish and Shellfish.

Virginia Polytechnic Inst. and State Univ., Blacks-burg. Sea Grant, Program.

pons Agency—National Oceanic and Atmos-pheric Administration (DOC), Rockville, Md. National Sea Grant Program.

Report No.—VPI-SG-76-05
Pub Date—Sep 77
Grant—NOAA-04-4-158-40
Note—80p.
Austlable from Sep 50

Available from-Sea Grant, Extension Division, Virginia Polytechnic Inst. and State University, Blacksburg, Virginia 24061 (\$1.50)

Virginia Polyteenine Inst. and State University, Blacksburg, Virginia 24061 (\$1.50)

Pub Type— Books (\$010) — Creative Works (\$030)

— Guides · Classroom · Learner (\$051)

EDRS Price - MFDI/PCM Plus Postage,
Descriptors—*Art Activities, * Childrens Art, Elementary Education, * Environmental Education, * Marine Biology, * Science Activities, Science Education, Zoology

This colonies book contains flictives of more than

This coloning book contains pictures of more than 79 fish and shellfish found on the Atlantic Coast. Captions give information on habitats, behavior, or commercial uses of the species pictured. Indexes of both common and scientific names are given. (BB)

ED 168 877

SE 026 997

Gillespie, Judith A.

Lessons from An Energy Curriculum for the Elementary Grades.

Indiana State Dept. of Commerce, Indianapolis Energy Ground Indiana State Dept. of Public Instruction, Indianapolis. Div. of Curriculum. Pub Date-Oct 78

Note-1129: Contains light and broken type Pub Type- Guides - Classroom · Teacher (0S2)

EDRS Price - MF91/PC03 Plus Postage.

Descriptors—*Activity Units. *Conservation Education. Elementary Education. *Elementary School Square, Energy *Energy Conservation. Environmental Education, Instructional Maperials, Science Activities. Science Education

This curriculum guide is composed of three units Each unit has three chapters, and each chapter has six lessons. The objectives of the course are to develop an awareness of and information about energy conservation, as well as to improve inquiry skills and participation habits. Each set of lessons covers the full range of objectives in the course. The first unit is for grades K.I. The second unit is primarily for second and third graders, and includes lessons about physical and human resources involved in the energy problem. The third unit, for grades 4-6, explores ways in which people are facing the energy problem and actions they are taking. This unit requires the students to undertake a major project of, their own about the conservation and use of energy.

ED 174 442 SE 028 431 Odell-Fisher, Ellin Giese, Ronald N.

Sensing the Sea: A Curriculum Guide in Marine Education for Grades Kindergarten and First. Educational Series Number 23.

Virginia Inst. of Marine Science, Gloucester Point,

Spons Agency-National Oceanie and Atmospheric Administration (DOC), Rockville, Md National Sea Grant Program.

Note-480 : For related document, see ED 167 421 Note—489: For related document, See EU 10/421
Available from—Marine Education Center. National Institute of Marine Science. Gloudester
Point, Virginia 23062 (52 001
Pub Type—Guides · Clustroom · Teacher (052)
EDRS Price · NfF01/Pady Plus Postate.
Descriptors—Biology * Elementary Education.
Elementary School Science. Environment. Environment.

romneral Education, Grade I. "Marine Biology, "Natural Resources, "Oceanology, "Science Curneulum, Science Education, Water Resources, Zoology

This curriculum unit deels with the establishment and maintenance of a saltwater aquanum in the elassroom. The unit seeks to arouse the student's comosity and interest in the aquatic environment by

involvement in the sequence of activities relating to the marine aquatium. Detailed instructions are provided in preparing and stocking the aquarium. Teaching suggestions are included along with techaical instructions Appendices include: (1) a list of aquanium aupplies; (2) mattine life suppliers. (2) book publishers; and (4) a story relating concepts of the matthe environment (RE) .

ED 175 718 Williams Latora SE 028 756

An Energy Encounter (An Energy Awareness Pro-

Mississippi Siste Univ. State College. Cooperative Extension Service.

Spons Agency—Department of Energy, Washington. DC

Report No -MEEC-39 Pub Date-78

Grant-DOE-EL-78-G-05-5873

ote-29p; For related documents, see SE 028

Available from—Mississippi Energy Extension Center. PO Box 5406. Mississippi State. MS 19762 (no price quoted) Pub Type— Guides · Classroom · Teacher (052) EDRS Price · MF01 PC02 Plus Postage.

Descriptors-*Cufficulum Planning, *Energy, *Energy Conservation Interdiscipanary Approach, Junior High-Schools Nonformal Education, *Serence Education, *Secondary Education Identifiers—*Energy Education, Visstssippi

This guide presents instructions for five class sessions on the Preparation of an energy education program by students to the community. The energy education program is designed around a series of booths or activity centers devised and operated by seventh-grade students and set up within the classroom A list of sources for free or inexpensive materials is provided (RE)

ED 175 724 King, Merken W SE 028 807

Endangered Species of Florida Coloring Book.

Florida Audubon Society, Maitland Spons Agency—Office of Education (DHEW), Washinston, D.C. Office of Etwoonmental Education

Pub Date Grant-GOO7407881

Note—34p: For telated documents, see SE 028 808/810

Prò Type- Guides - Classroom - Leatner (051) EDRS Price - MF01. PC02 Plus Postage.

Descritors—Art Education, Botany, *Conserva-tion (Environment), Conservation Education, Eeelogy *Environment, *Environmental Educa-tion *Natural Resources, *Plant Identification, Science Education, *Wildlife Management, Zociesy

rdentifiers-*Endangered Species, Florida

if a coloring book portrays endangered animal and plant species of Florida in their natural environ-Ten: Each picture is to be enfored by the student On the back of each page bearing the picture to be colored is a description of the animal or plant, als preferred habitat, and the reason the animal or plant B endångered. (RE) .

ED 180 808

SE 029 537

Conner, Shuley The Pond Community, Primary Level, Teacher's

Rocky River Public Schools, Ohio Spots Agency—Office of Education (DHEW):
Washington, D.C. Ohio Stare Dept of Education, Columbus Div. of Research, Planning, and
Evaluation

tion. Columbus Div. of Research. Planning, and Evaluation
Pub Date—Mar 77
Note—25p., For related document, see SE 029 538
Pub Type—Guides - Casstooms-Teacher (052)
EDRS Price - MF01/PC01 Plus Postage.
Descriptors—Biology "Conservation Education.
"Ecology. Elementary Education. Elementary
School Science, "Environment. Environmental
Education, Natural Researches, Science Education, Teaching Guides. "Water Resources
This teacher's guide includes four lessons dealing
with animals and plants associated with ponds. Species discussed are selected because of their unusual

cies discussed are selected because of their unusual means of adaptation to the pind environment. Each lesson includes suggestions on introducing the unit. discussion suggestions, blackboard activities, and activities with Pictures and a magnetic board. Master activity sheets are provided (RE)

SE 027 843 Handy, Roberta M

Man and His Environment A Suggested Cur-reculum for Second-Grade Students.

neutum for Second-Grade Students,
Pub Date—May 79
Note—20p.: Contains occasional marginal legibility
Pub Type— Guides · Classroom · Teacher (052) —
Reports · Descriptive (141)

EDRS Price - MF01/PC01 Plus Postage.

EDRS Price - MF01/PC01 Plus Postage.

Educational Objectives. *Elementary Education.

Environment. *Environmental Education. *Grade 2. Instructional Materials, Learning Activities. Natural Resources, *Poliution. Science Curriculum. *Science Education on how constant

new discoveries cause science to endure, which necessitates successive alterations in indury and methodology. The curriculum was formulated based on the author's perception of child development leviels. The cognitive, social and physical challeteristies of second-grade students are listed. The main objectives pertaining to the study of science are listed and discussed. In the second half of the guide, the actual science curriculum is presented. The objectives, major goals, specific goals, supporting con-tent and learning activities are laiso included. (Author/SB)

SE 029 960

ED 183 374 SE 029 96 McCormack Alan J. Comp.
Outdoor Areas as Learning Laboratories. CESI Sourcebook, An Oceasional Sourcebook of The Council for Elementary Science, International, ERIC Information Analysis Center for Science.

Mathematies, and Environmental Education. Columbus, Ohio.

Spons Agency—National Inst. of Education (DHEW), Washington, D.C.

Pub Date—Dec 79

Contract—400-78-0004

Contract—19p.

Available from—Information Reference Center
(ERIC/1RCl. The Ohio State University, 1200)
Chambers Rd., 3rd Floor, Columbus, OH 43212

Chambers Rd., 3rd Floor, Columbus, OH 43212 (\$6.50):
Pub Type— Guides - Classroom - Teacher (052)
EDRS Price - MF01/PC09 Plus Postage,
Descriptors—Class Activities, "Earth Science,
Ecology, Elementary Secondary Education, "Environment, "Environmental Education, Interessiplinary Approach, Natural Resources,
"Outdoor Education, Pollution, "Stience Education, Solar Radiation, Water Resources,
This much is intereded to be a solution of inclass for

This guide is intended to be a source of locas for outdoor learning activities appropriate for young-sters in elementary, middle, and junior migh schools it may also be useful for those who work with children primarily in outdoor settings. Decisions as to which setivities are appropriate for particular age levels are left to the teacher. Each setivity includes title, focus, challenges, materials and equipment, instructions, further enaillenges, and references (Ppro-priate to the activity. Activities are designed to assist the teacher in using outdoor areas surrounding the school as a laboratory for effective instruction. (Author/RE)

t.D 183 392

SE 030 295

Mason Jack L. Contrell Joreph S. Solar Energy: A Middle School Unit. Environmen. Solar Energy: A Middle School Unit, Environmen.

121 Education Occasional Paper No. 2.
Ohio State Dept of Education, Columbus.

Fub Date—Feb.79
Note—28p: For related documents, see SE 030
294-290, Contains occasional light type
Pub Type—Guides - Cissstoom - Teacher (052)
EDRS Price - MF01/PC02 Plus Postage.
Descriptors—*Class Activities, Electricity, *Energy_Energy Conservation, Environmental Education, Heat, Interdisciplinary Approach.

cation, Heat, Interdisciplinary Approach, *Middle Schools, Natural Resources, *Seience Education, Secondary Education, *Solar Radia-

tion identifiers—*Energy Education
'This collection of teaching activities was developed to provide teachers with guidance in presenting solar energy education to students of middle school age. The unit provides activities presenting learning opportunities involving. (1) passive solar collectors, 13) concentrations (2) active color collectors, 13) concentrations. collectors. (2) active solar collectors. (3) concentrating collectors and (4) photovoitain ceil conectors.

The guide is presented in the sequence. (1) introducing the unit (2 lessons), (2) characteristics of solar energy (3 iessofs); (3) espturing soiar energy (5-10 lessons), (4) complete solar systems (1-3 lessons), and (5) a summary (RE)

ED 184 875

SE 030 543

Schatz Denns And Others Marine Science Activities for Visually Impaired. Pacific Science Center, Seattle Wash

Spons Agency — Bureau of Elementary and Second-ary Education (DHEW OE), Washington, D.C. Pub Date—[79]

Note—97p
Available from—Pacific Science Center, 100 Second Ave. N., Seattle, WA 98109 (free while sup-

ply lasts)
Pub Type— Ouides - Classroom - Teacher (052)
EDRS Pince - MF01/PC04 Plus Postage.
Descriptors—Class Manages Dissoluties Elementary Education. Elementary School Science. "Environment. "Environmental Education. "Marine Biology. Natural Resources "Oceanography, Outdoor Education, Science Activities. "Science Education. "Visual Impairments."
These marine education materials are based on

These mattine education materials are based on the approach that students learn best when given a multisensory experience. The activities are intended to develop such experiences for the visually im-paired child. Activities are intended to supplement an upper-elementary science currendum or be the basis of a unit on marine biology. The guide is organtred into two sections: (1) the aeticity sets and (2) background information for the sets (RE)

ED 186 231

SE 030 499

Allen, Rodney F., Ed. Exemplary Energy Education Lessons for Elemen-tary School Students, K-6. Tri-County Teacher Education Center, Schring.

Spons Agency—Florida State Dept. of Education.
Tallahassee. Office of Environment Education.;
Governor's Energy Office, Tallahassee, Fla. Pub Date-80

Note-58p.

Note—98p.

Pub Type—Guides - Classroom - Teacher (052) —

Non-Print Media (100)

EDRS. Price - MF01/PC03 Plus Postage,

Descriptors—*Class Activities, Conservation Education, "Elementary Education, "Energy, "En-

ergy Conservation, Environmental Education. Science Education

Identifiers—Energy Education
This collection of energy lessons is assembled from teacher-written units. The collection is prefaced by background information on the issues associated with nurtent energy problems. Each lesson contains a statement of objectives and a description

of the activity. Additional information on variations

and materials is provided where appropriate. (RE) ED 186 281 SE 030 760 How We Make Energy Work: Grades 4, 5, 6 Science.

National Science Teachers Association, Washington, D.C. Spons Agency—Department of Energy, Washington, D.C. Office of Consumer Affairs.
Report NO.—DOE/CA/06083-02
Pub Date—Apr 80
Contract—EC-77-C-01-6083
Nata-80

Jub Date—Apr 80
Contract—EC-77-C-01-6083
Note—80p.
Pub Type— Guides - Classroom - Teacher (052)
EDRS-Price - MF01/PC04 Plus Postage.
Descriptors—Class Activities. Conservation Education, "Curriculum Guides. "Economics. Electricity. "Elementary Education, Elementary School Science. Energy. "Energy Conservation, Environmental Education, Fuel Consumption, Fuels, Instructional Materials. Natural Resources, Nuclear Physics. Petroleum Industry, "Science Education, Solar Radiation, Utilities Identifiers—"Energy Education
This packet of units is designed to focus on the technological aspects of energy. Four units are presented, with from 1.3 lessons included in each unit. Units include (1) basic concepts and applications of energy. (2) steps and Processes of energy Production

contribute the city date concepts and applications of energy 20 steps and processes of energy production and transmission, 13) fuel acquisition, and (4) energy futures and application of non-fossil fuel energy sources. Twenty activity masters are included in this teacher's guide. (RE)

55?

SE 032 874

Schmids, Joan S. And Others Conservation Activities Related to Energy: Energy Conservation Activities Related to Energy: Energy
Activities for Urban Elementary Students, 8-6.
Beater Coll Glenside Pa Office of Education
(DHEW): Washington, D.C. Teacher Corps.
Philadelphia School District Pa
Spons Agency—Department of Energy Washington, D.C. Office of Education.

Business and Labor

Affairs

Pub Date-80
Grant-DE-FG05-801R10958 *
Note-161P
Pub Type- Guides - Classroom - Teacher (052)
EDRS Price - MF01/P07 Plus Postage.
Descriptors-*Class Activities. *Curriculum Deveiopment Decision Making Elementary Education. *Energy *Erergy Conservation Fuel
Consumption Home Economics Interdisciplinary Approach Natural Revoluces Public Policy
*Science Education. *Urban Education
Identifiers-*Energy Education
Presented are simple activities experiments, and

Presented are simple activities experiments, and demonstrations relating to energy concernation in the home. Actuaties are dicaded into four areas, 111 Litchen (2) house (3) transportation and (4) houting and cooling. The material has been designed for require a minimum of preparation. Activity and game masters are provided. Autivities may be adapted to meet individual skill texels, if students Theory is presented to lead logically to practical applications (Author RE)

ED 107 996

SE 034 177

What Is Energy: Eas) Energy Reader, Book I. information Planning Associates, Inc., Rockville,

Spons Agenty-Department of Energy, Washing-ron, D.C. Office of Consumer Affairs.

Report No -EDM-1137 Pub Date-May 80

Contract-EU-78-C-01-6497

No.:-86p. For celared documents, see SE 034 "3-180 Photographs may not reproduce well Available from - Department of Energy, Technical Information Center, P.O. Box 62, Oak Ridge, TN \$7830 (free).

Pub Type— Guides - Classroom - Learner (051) — Guides - Classroom - Teacher (052)

EDRS Price - AIF01/PC04 Plus Postage, Descriptors—"Content Area Reading, "Energy, Enstronmental Education. "Interdisciplinary Approach, Junior High Schools, "Reading Materials," Science Education, "Scientific Concepts

Presented to the first in a series of four books on energy designed for the jumor high school language arts eurniculum. Each of the 10 articles meluded ia scored for readability according to the Gunning Fog. Index. By referring to these ratings, a teacher can provide students with increasingly more challenging resourg material. Among these articles, all of which deal with baste energy concepts, are: (1) Carrying Energy from Piace to Place. (2) how Edergy is Lost. and (3) Energy Circulates Aiso contained are a glossary and list of celated readings (WB)

SE 034 598

Monigonary Hethers if organizes Man.
Minnesota Energy (Activities for Elementary Students, Eyel A (Azes 4-6) Feyel B (Aces 5-7).
Levsl C (Agas 6-8), Feysl D (Axes 7-9). Level E (Ares 8-10). Level F (Ares 9-14), Level G (Ares 10.131.

Miniciora State Dept. of Administration, St. Paul Documents Section Vinitenda State Energy Agency, St. Paul

Photopare - 18 1.

Note - 1689. Contains of assemble colored print and photographs which may not reproduce well.

Pub Type - Guides - Closerbont - Teacher (022).

EDRS Price - VIFOL PCOP Plus Postage.

Descriptors - Elementary Education. *Elementary.

School Science *Energy. *Environmental Education Interdisciplings Approach. *Nichola Activities. Science - Education. Science - Uniformities. ties Science Education, Science Instruction, Social Studies

Presented are seven follow of energy activities for elementary serior I students. Each ser is devoted to different energy of sted themes III What is energy. What does energy do? Where does energy some from? (2) We find energy in many places. (3) En-ergy does all the mork in the world. (4) The Earth's energy sources are signified, (3) Energy changes from one form to another (6) The energy situation arter to Michiganisms redgy, and (1) The energy situation with arter, the finture The folions scenariod by age levels, contain a total of 60 eards with three ical using activities per eard. The Principroph or drawing that illustrates each sund serves to tosis attention and stimulate discussion about the activities (WB)

ED 200 453 SE 054 668

Rasmusen Frederick 4.
Coastal Awareness: A Resource Guide for Teachers

in Elementary Science. National Oceanic and Almospheric Administration (DOC) Rockyrle, Vid. Office of Coastal Zone Varagement

Pub Dale-Sen 8

Note - 85p . For related discuments, see SE 034 669, and ED 164 333

Available from Superintendent of Documents.

1 S. Government Princing Office Washington.

DC 10402 (Stock No. 003-019-00041-1; no price Queredi

Pub Type- Guides - Classroom - Teacher (0521 -Reference Materials - Bibliographies (131)

Describors - Earth Science - Ecology Blomen-tary Education "Elementary School Science, En-cironmental Education, "Marine Biology, "Oceanography Oucaco" Education, Resource Materials, "Science Eulestion, Science Instruc-

Identifiers-"Coastal Zones

Interpret to encourage to themary teachers to ex-plore coastal ecology with their students, this guide presents background material activity suggestions. and recommended resource materials that could be used in designing a week-long unit on Coastal Awareness Discussed is how vanous physical pro-cesses such as wases, rides, and currents affect sandy beathes, estuaries, rocky shores, and mar-About 10 related polivities are described. Ineluded in the resource insterials section are an annotated bibliography and film list, information sources, and Sea Grant in-titution- (N.B.)

ED 200 454 SE 034 669

Rosiniusen, Frederick 1

Coastal Awareness: A Resource Guide for Teachers

la Junior High Science.
National Oceanic and Armospheric Administration
(DOC). Rockville, Md. Office of Coastal Zone

(DOC), ROCKHIE, Vid Office of Coastal Zone Management
Pub Date—Sep 78
Note—95p, For related 20 minents, see SE 034 668
and ED 164 334
Available from—Superiorized of Documents,
U.S. Government Printing Office Washington,
DC 20402 (Stock No 093-019-00042-0 no Price

quoted) Pub'Type - Guides - Classroom - Teacher (052)

Pub'Type — Guides - Classiform - Teacher (052) =
Reference (Materials - Bibliographies (151)
EDRS Price - MIFOL PC04 Plus Postage.
Descriptors — Earth Science, "Ecology Environmental Education June" High Schools "Marice
Biology, "Oceanography Outcoor Education
"Science Education" Science Instruction "Secondary Education" Secondary School Science
Identifiers — "Coastal Zones
Background information science supportations

Background information activity suggestions. and eccommended resource materials coindrise this guide for designing a week-long ecology unit for junior high school students on Coastal Awareness Discussed is how various payers in receives such as waves, currents, and tides proctatorly whose, marshes, sandy bearhow and estuaries. To encourage teachers to study course, ecology with their studyers. dents, about 30 related indicat and outdoor activities are briefly described. In addition to an annotated bibliography of 160 publications, the resource materials section also lists recommended films, data sources, and Sea Grant institutions (NB)

ED 201 509 SE 034 854 Dickman, Donna McCord

Sounds Alive: A Noise Workbook. Metropolitan Washington Council of Governments.

Washington, D.C. Spon) Afteney—Environmental Protection Agency Washington, P.C. Office of Noise Abatement and . Control

Pub Date-Dec 79

Note-400: For related documents, see SE 034

853-855.

Pub Type— Guides - Classroom - Learner (051) EDRS Price - MF01/PC02 Plus Pouzee. Descriptors—"Acoustical Encyronment "Acous-

tics. Community Problems. Elementary Educa-tion. *Environmental Education. *Firs the Education, Physics. *Pollution, Science Education. Social Studies Identifiers—"Noise (Sound)

Sarah Sceeceh, Danny Decibel. Sweetic Sound and Neil Noisy describe their experiences in the world of sound and noise to elementary students Presented are their reports. Sames and ameris and an address sound measurement. The circuit of home or people, methods of noise control, and fertificate is.

The workbook is intended to stimulate students. terest in and awareness of noise and noise poliution control. (Author/WB)

ED 201 510

SE 034 855

Dickman, Donno McCord Sounds Alive: A Noise Workbook, Teacher's Guide. Metropolitan Washington Council of Covernments. Washington, D.C.

Spons Agency—Environmental Protection Agency Washington, D.C. Office of Noise Austement and Control.

Pub Date-Dec 79

Note—27p : For related documents, see 5E 754
853-854 Contains occasional lifest and are are

type.
Pub Type-Pub Type- Guides - Classroom - Teacher (632) EDRS Price - MF01/PC02 Plus Politice Descriptors- Acoustical Entire time 1 (14), a-

escriptors—"Acoustical Environmentes, Community Problems, Elementary Education of the Parameter of the Param tion. Environmental Education of the St. Education. Physics. Pollution. Science Excustion. Social Studies

Identifiers- Noise (Sound)

Designed to assist elementary sinter sances sumulating students' interest to no te 24 on, this manual provides information water sugar serious the 'Sounds Alive Student Workers and Despeties for each section of the Norkborn and Despeties questions, esperiments, projects and Leid to the line guide is intended to provide teachers with matimum flexibility in terms of the time they with to devote to a unit on noise pollution (Autgor WB)

Pohlman, Betty And Others Energy Conservation Activity Packet, K-2. Revised

Edition. lows Energy Extension Selvice. Des Moines ; Iowa State Dept. of Public Instruction. Des Moines.: Iowa State Energy Polic) Council. Dos Moines.

Pub Date-80 Note-85P. For related documents, see SE 035 449-452 and ED 146 044-048. Available from-lowa Energy Policy Council, State

Capital Complex, Des Moines, IA 50319 (510.ooi.

00).

Pub Type— Guidea - Classroom - Learner (051) —
Guides - Classroom - Teacher (052)

EDRS Price - VIFO - PCO4 Plus Postage.
Descriptors—"Elementary Education, Energy,
"Energy Conservation, Environmental Education, "Instructional Materials, "Natural Reteacher Prince Property Conservation, Property (Natural). sources, Primary Education, Resource Materials, Seience Education, Values

This notebook was developed in tesponse to the concern for energy conservation. It contains activi-ties that stress an energy conservation either and includes many values clarification activities for grades K-27-To teacher is provided with some background information on energy, an extensive revised teacher) annotated biolography, and a list of resources. The topic-of energy is divided into concepts and objectives, with activities interspersed where appropriate. There are over 40 pages of ditto and transparency masters two features and a same for the teacher's use. Also included is an evaluation sheet for the teacher to assess the acquity packet. (Author)

ED 204 183 SE 035 449

Pohlman, Betty And Others
Energy Conservation Activity Packet, Grade 3.

Ravised Edition. lows Energy Extension Sensee, Des Moines : lows State Dept. of Public Instruction. Des Moines; lows. State Energy Polic) Council. Des Moines Pub Date-80



Note—86p, For related documents, see SE 035 aa8-452 and ED 146 044-048
Available from—lowa Energy Policy Council, State Capital Complea, Des Moines, IA 50319 (510.00)

a set)
Pub Type— Guides - Classroom - Learner (051) —
Guides - Classroom - Teacher (052)
EDRS Price - MF01 PC04 Plus Postage.
Descriptors—"Elementary Education. Energy,
"Energy Consensation. Environmental Education. Grade 3. "Instructional Materials. "Natural
Resources. Resource Materials, Science Education. Values."

bon. Values This notebook for grade 3 is one of a series developed in response to the concern for energy conservation. It contains activities that stress an energy conservation ethic and includes many values clanifieation activities for grade three. The Packet is divided into two parts and provides the feather with background information, concepts and objectives. and activities for each part. Basic 2001s for the activities involve energy's affect on our lives, available energy sources, and energy conservation. Two ammorated bibliographies, one for teachers and the other for students, are also included. The feather is provided with ditto and transcrirency master pages to use in the classroom. An evaluation sheet and a list of resources are also a part of this activity packet. Revisions include appared statistics, revised background information, two additional solar activities and a revised bibliography (Author)

SE 035 450 ED 204 184

Pohlman. Belly And Others Energy Conservation Activity Packet. Grade 4. Revised Edition.

Iowa Energy Extension Service Des Moines : Iowa State Dept. of Public Instruction. Des Moines. Iowa State Energy Policy Council. Des Moines. Pub Date-80

Note-102p. For related documents, see SE 035 448-452 and ED 146 044-648

Available from-lows Energy Policy Council, State Capital Complex, Des Moines, 1A 50319 (510 00

Pub Type- Guides - Classroom - Learner (051) -

Guides - Classroom - Teacher (051) —
Guides - Classroom - Teacher (052)
EDRS Price - MF01 PC05 Plus Postage.
Descriptors—"Elementary Education, Energy.
"Energy Conservation Environmental Education, Grade 4, "Instructional Materials. "Natural Resources, Resource Materais, Science Educa-

This activity notebook for grade \$ 15 one in a senes developed in response to the concern for energy conservation. It contains activities that stress an energy conservation ethic and includes many values elarification activities for grade four. The packet is divided into two parts and provides the teacher with background information, concepts and objectives, and activities for each part. Part one is concerned with energy conservation activities. Two annotated bibliographies, one for teathers and the other for

students, are also included. The teacher is provided with pages for duplication. An evaluation form and a list of resources are also a Part of this activity packet. Revisions include updated background in-formation, three additional activities involving solar coergy and consumption. Plus a revised bibliogra-

phy. (Author)

SE 035 451

ED 204 185 Pohlman, Betty and Others
Energy Conservation Activity Packet. Grade 5. Revised Edinen.

lowa Energy Extension Service, Des Moines, Iowa State Dept of Public Instruction, Des Moines, lowa State Energy Policy Council. Des Moines Pub Date-80

Available from Plox & Engre Policy Council, State Capital Complex, Des Mojnes, IA 50319 (510.00

Pub Type— Guides - Classroom - Learner (051) — Guides - Classroom - Teacher (052)

Descriptors—"Elementary reducation. Energy. "Energy Conservation. Environmental Education, Grade S., "Instructional Materials, "Natural Resources, Resource Materials, Defence Education, Valuea

This activity natebook for x 1 de 5 is one of a series developed in response to energy conservation. It containstactivities that sticks an energy conservation ethic and includes many values clarification activities for grade five. The nucleu is divided into two parts and provides the seasoner with background information, concepts and so cotty estand activities for each part. Part one is concerned with fossil fuels and part two with the hist, so of energy in lowa. Both sections include energy conservation activities. Two annotated bibliographies, one for teasurers and the other for students, are also included. The teacher is provided with ditto and transparency master pages to use in the classroom. An evaluation aheet and a listing of resources are also a part of this activity packet. Revisions include updated background information and statistics, five additional activities involving solar energy and energy in general, plus a revited bibliography. (Author)

SE 035 452 ED 204 186 Pohlman. Beny And Others
Energy Conservation Activity Packet. Grade 6.

Revised Edition.

lowa Energy Eletension Service. Des Moines., Iowa State Dept. of Public Instruction. Des Momes . fowa State Energy Poucy Council. Des Moines. Pub Date -80

Note-99p. For related documents, see SE 035 448-451 and ED 146-044-048 Available from-lowa Energy Policy Council, State

Capital Complex, Des Moitres, IA 50319 (510 00

Capital Complex, Des Indicator Capital Complex a set)
Pub Type— Guides - Classroom - Learner (051) —
Guides - Classroom - Teacher (052)
EDRS Price - MF01/PC04 Plus Postage.
Descriptors— Elementary Education. Energy.
"Energy Conservation. Environmental Education, Grade 6. "Instructional Materials. "Natural Resources. Resource Materials. Science Education. Values

Hon. Values

This activity notebook for grade 6 is one of a series developed in response to the concern for energy conservation. It contains activities that stress an energy conservation ethic and includes man) values elarlication activities for grade six. The packet is divided into two parts and provides the leaguer with background information, concepts and objectives. and activities for each part. Pan one is concerned with the limits of energy sources and part two with alternative energy sources. Both sections include energy conservation activities. Two annotated obli-ographies, one for teachers and the other for stu-dents, are also included. The teacher is provided with ditto and transparency master pages for dupheation. An evaluation sheet and a usting of re-sources are also a part of this activity Packet. Revisions include updated background information and statisties, three additional solar and conservation activities plus a revised bibliography. (Author)

ED 206 466

SE 035 507

Barr, Nancy Sea Animals: A Study Guide for the First Grade. Alaska Sea Week Curriculum Series. Draft. Alasaa Univ., Fairbanks, Alaska Sea Grant Pro-

Spons Agency—National Oceanic and Atmospheric Administration (DOC), Rockyille, Md. National Sea Grant Program.

Pub Date—Jun 80
Gram—NOAA-NA79AA-D-00138
Note—118p; For related documents, see SE 035 506-512. Contains occasional light and broken

rype.
Pub Type — Guides - Classroom - Learner (051) —

Pub Type — Guides · Classroom - Learner (051) —
Guides - Classroom - Teacher (052)
EDRS Price - MF01/PC05 Plus Postage.
Descriptors—* Animais. Ecology. Elementary Education. *Elementary Senool Science, *Environmental Education. Field Tips. Grade 1. *Manne Biology. Oceanography. *Outdoor Education.
Science Education
Over 40 activities dealing with manne animals compone this guide for fifst-grade teachers. By com-

comprise this guide for fiftst-grade teachers. By com-bining meaningful time at the beach with appropriate eiassroom work, first graders should be able to learn about the habitats, lives, characteristics, and names of some common ocean invertebrates, fish, and mammals. In addition to the lesson plans for indoor and outdoor studies, the manual includes 32 student worksheets which may be duplicated. Also provided are tips on organizing and conducting a field trip, and a bibliography of helpful references.

ED 206 467

Kelsey, Claudia Parsons, Mary Beth Shells: A Study Gulde for the Second Grade.

Alaska Sea Week Curriculum Series. Alaska Unir., Fairbanks, Alaska Sea Grant Pro-

stam.

Spons Agency—National Oceanic and Atmospheric Administration (DOC), Rockville, Md National Sea Grant Program.

Pub Date—Jun 80

Grant—NOAA-NA79AA-D-00138

Note—125p. For related documents, see SE 035
506-512. Contains occasional light and broken tram.

Sub-312. Contains Colored type.

Pub Type— Guides - Classroom - Learner (051) —
Guides - Classroom - Teacher (052)

EDRS Price - MF01/P005 Plus Postage.

Descriptors— Animais. Biology. Ecology. Elementary Education. "Elementary School Science.

"Environmental Education. Grade 2. Language Arts. "Manne Biology. Outdoor Eoucation.

"Science Education."

Identifiers-"Invertebrates
Presented are several elementary school lessons dealing with marine shell-bearing animals. Among the aspects of moliusk biology investigated are anatomy, diversily of form, adaptations, and classification. Learning strategies used include field trips, creative writing exercises, ari activities, poetry, and scientific observation. A set of 40 student worksheets is provided, along with tips for organizing a field trip and a list of resource materials. (WB)

ED 206 468 SE 035 509

Hobson, Dan And Others Glacial and Intertidal Foology: A Study Guide for the Third Grade. Alaska See Week Curriculum Senes, Druft.

Alaska Univ. Fairbanks Alaska Sea Grant Pro-

Spons Agency—National Oceanic and Aimosphenic Administration (DOC). Rockville, Md. National Sea Grant Program.

Pub Date—Jun 80 Grant—NOAA-NA79AA-D-00138

Note—103p. For related documents, see SE 035 506-512 Contains occasional light and broken

type.
Pub Type — Guides - C'assroom - Learner (051) — Guides - Classroom - Teacher (052)

EDRS Price - MF01, PC05 Plus Postage,
Descriptors—Earth Science * Ecology, Elementary
Education, * Elementary School Science, * Environmental Education, * Geology, Grade 3, * Magnine Biology Oceanography, Outdoor Education, Reading Skills. "Science Education Identifiers—"Coastal Zones

Two marine science units comprise this manual for teachers of elementary school students. Unit 1, Shore Communities Tyones mapping exercises and other investigations of the eeplogy of the intertidal rone. Unit 2. "The Glacier. Tocuses on glacial geology and the relationship of glaciers to the marine environment. Each unit contains several field and classcoom activities, and a list of references is Provided. Also included are tips for conducting field trips and a set of student worksheets which stress reading skills and vocabulary. (WB)

ED 206 469 SE 035 510

King James G. King, Mary Lou Birds: A Study Fould: for the Fourth Grade, Alaska Sea Week Qurriculum Series, Draft, Alaska Umor, Fairbanks Alaska Sea Grant Pro-

gram

Spons Agency-National Oceanic and Atmos-Phene Administration (DOC), Rockville, Md. National Sea Grant Profram.

Pub Date—Jun 80
Grant—NOAA-NA79AA-D.00138
Note—152p. For related documents, see SE 035
506-512 Contains occasional light and broken

Pub Type—Guides - Classicom - Learner (051) — Guides - Classicom - Tracher (052) EDRS Price - NIFOI/PC07 Plus Postage.

EDRS Price - MF01/PC07 Plus Postage.

Descriptur's—Animals "Ecology, Elementary Education. "Elementary School Science. "Environmental Education. Grade 4. "Marine Biology, Outdoor Education. "Science Education. "Vocabulary Skills, Water Resources Identifiers—"Birds, Estoaries

Southeast Alaska's birds and wetlands are the sub-

jeet of this elementary school reacher's guide and student workbook. Included are classroom activities and field investigations which address. (1) bird iden-

tification, habitats, adaptation, and conservation; and (2) the inhabitants ecology and value of estuares Workbook activities involve the development of vocabulary and teading skills using bitds and wetlands as subject matter. A list of resource materials and a guide for organizing field trips are included. (WB)

·SE 036 030 ED 211 358

Cowal Michael And Others

Courtal Persystems, Project CAPE Fescaling Module (with Student Materials).

Date County Board of Education, Manteo, N.C. Spous Agency—Bureau of Elementary and Secondary Education (DHEW.OE) Washington, D.C.

Pub Date—Jul 81
Note—Jul 81
Note—Jul 91
Not available in paper copy due to copyright restrictions Contains colored front in student materials which may not reproduce well. Pub Type—Guides - Classroom - Learner (051)—Guides - Classroom - Teacher (052)

EDRS Price - MF01 Plus Postate. PC Not Available from EDRS.

Descriptor—Activity Units, Biological Sciences,
"Ecology, "Elementary School Science, Environmental Education, "Field Trees Instructional
Materials, "Marine Biology, Figure Education,
Science Education, Teaching Guides, Water Re-

Identificas-Interfers—Coastal Zones *Marine Education
Intended for grades K-2 this science unit on coastal ecosystems aids teachers in helping students to: (1) identify manne organisms. (1) learn their basic characteristics, and (3) understand the web of interdependence among organisms of the same habitat. The teacher's guide is divided into four sections. The first section sives background informa-tion about ecosystems. The second section provides detailed directions on how to eatlest specific matthe plants and animals and includes an application for a permit to collect organisms. The third section ex-plains how to set up and maintain a sail water aquarium, and provides a feeding schedule and list of supply houses, as well as a supplementary booklet for student use The last section identifies various considerations related to conducting field thos. These include, among others, site selection, scheduling, permission slips emergency information, clothing, parent volunteers, and equipment in their outlines specific information for four field tites, ineluding pre- and post-trip activities, investigation procedures, and discussion questions. Student work booklets for each of the thirs (pier and jetty, sand) beach, mud flat, and salt marsh) contain pictures of organisms they will collect and questions to answer

LD 211 378 LD 211 3/8 SE 036 060
Treat Asset Steerns Ed. And Others
K:EEP - Kenfucky's Energy Education Program
Activities for the Classroom, K-6.
Activities State Dept of Education, Frankfort,
Kentucky's State Dept of Energy, Frankfort
Pub Date—[32]

Pub Date

Pub Date—[32] Note—164p. For telated document, see SE 026, 061 Funds provided through the Kentucky En-

061 Funus Provided through the Kentucky Energy Conservation Plan
P.5 Type—Guides - Classifform - Teacher (052)
EDRS Price - MF01/PC07 Plus Postage.
Discribers—"Conservation Education. Elementary Education. Elementary Seniori Science." Energy "Energy Conservation. "Emirror mental Education. Instructional Materials. "Interdisciplinary Ambroach. Learning Activities. "Science Activities, Science Education. State Programs ivites, Science Education, State Programs
Identificis—* Energy Education
Seventy-seven multidisciplinary activities for

grades K-6 are contained in this revised coition of energy education lessons for Kentucky students -Section Lintroduces students to the topic of energy by emphasizing human interaction with the environment, it focuses on personal energy, food as the source of auman energy, food chains, and the sun as the ultimate source of energy. Section II explores various types of energy sources a ailable for human use and emphasizes tenewable sources of energy Students are eneoursged to build and make worka-ble models for themonstration. The last section focuses on ways in which people waste energy and the need to conserve and share immed natural re-sources. Each activity identifies the concept being taught, subject areas, materials, and procedure Many indicate adaptations for other dissiplines. The bookiet is alignmented and centains student works a bibliography. (Author DC)

ED 216 906 SE 037 890 Caldwell, Nadine May. Charlaron Navigation - Project CAPE Teaching Module Dare County Board of Education, Manteo, N.C. Pub Date—Mar 82 Note-88p.

Available from—Project CAPE, Dare County School Board, P.O. Box 640, Manteo, NC 27954. Pub Type— Guides · Classroom · Teacher (052) EDRS Price · MF01 Plus Postage, PC Not Available from EDRS.

ble from EDRS.

Descriptors—Elementary Education. "Elementary School Science, Environmental Education, Interdisciplinary Approach, "Learning Activities. "Navigation, Oceanography, Resource Units, "Science Activities. "Science Curriculum, Science Education, Seafarers, "Social Studies, Units of Study Identifiers—"Marine Education

Ten lessons are, included in this interdisciplinary unit on navigation, designed to supplement fifth and sixth grade social studies and science curricula.

sixth grade social studies and science curricula. Each lesson includes: (1) lesson concepts: (2) competency goals; (3) objectives; (4) materials; (5). iss of key vocabulary words; (6) background information: (7) teacher preparation; (8) list of student activities; (9) questions for students to answer, and (10) a short bibliography. Activities are designed to foster inquiry, manipulative, creative organizational tional, communicative, and measurement akilly and to enable studen is to develop a better understanding of. (1) their mantime hentage: (2) some problems navigators faced in the 16th and 17th centuries; (3) the history and development of navigational/instru-ments; and (4) the importance of celestial/navigation. A packet of materials to be duplicated for student use is included. (IN)

Longe, Karen M. McClelland, Michael J Solat Spots - Activities to Introduce Solat Energy into the K-8 Curricula, Michigan State Days of Michigan State Dept. of Commerce, Lansing. Spons Agency—Department of Energy, Washington, D.C. Pub Date—[82]
Grant—DE-FG45-76CS60204
Note—104p. Pub Type—Guides - Classroom - Tescher (052) EDRS Price - MF01/PC05 Plus Postage. Descriptors—Elementary School Science. Ele-Descriptors—"Elementary School Science, Ele-mentary Secondary Education, Environmental Education, "Learntog Activities, "Power Tech-nology, "Science Activities, Science Education, Secondary School Science, "Solar -Radration, "Wind (Meteorology), Wind Energy Identifiers—"Energy Education ... Following an introduction to solar technology

which reviews solar heating and cooling, passive solar systems (direct gain systems, thermal storage walls, sun spaces, roof ponds, and convection loops), active solar systems, solar electricity (photovoltate and solar thermal conversion systems), wind voltaic and solar thermal conversion systems, wind energy, and biomass, activities to introduce solar energy into the elementary school entroducing are presented in four sections: (1) sun and seasons - an introduction to properties of sunlight and relationship of sun and earth; (2) role of solar energy and conservation, how solar energy fits into the energy mix, and importance of conservation; (3) solar ex-periments, designed to foster an understanding of solar energy, its collection, and use; and (4) wh experiments. Each activity includes context (grade level and subject area), time required, overview. materials needed, advanced preparation, student outcomes, and extension activities. A selected list of resources, glossary of key vocabulary words, and student questionnaire for evaluating the activities are included. (JN)

.....SE 038 269 Sparrow, Mary E. And Others
Fliby Activities for Your Small Fry. A Unit Plan in Fish Biology for Grades Kindergarten through Sixth, Educational Series Number 28. Virginia Inst. of Manne Science, Gloucester Point,

Spons Agency—National Oceanic and Atmospheric Administration (BOC), Rockville, Md. National Sea Grant Program.
Pub Date.—[82]
Grant—NA-80AA-D-00021

-42p.

Available from—Sea Grant Marine Advisory Services, Marine Education Center, Virginia Institute of Marine Science, Gloucester Point, VA

23062 (\$2.00). - Guides - Classroom - Teacher (052) Pub Type— Guides - Classroom - Teacher (052) EDRS Price - MF01/PC02 Plus Postage.
Descriptors—*Biological Sciences, Elementary Education, *Elementary School Science. Environmental Education, *Ichthyology. *Learning Activates. Marine Biology. *Science Activates, Science Curriculum, Science Education, Teaching Couries. United Study Guides, Units of Study

Identifiers—"Marine Education
This wait in fish biology is sustable for kindergarten through sixth grade. Provided in the unit are: (1) behavioral objectives for grades K-3 and 4-6, (2) (1) behavioral objectives for grades K-3 and 4-6, (2) an overview of activities and instructional strategies. (3) background information on fishes, (4) diagrams of internal/external fish structure: (5) list of key vocabulary words, (6) discussion of skill building (observing and inferring): (7) 4 worksheets for grades 4-6; (8) description of 22 supplementary activities. (9) seek-and-find puzzle. (10) crossword puzzles (one for grades 2-3-and one for grades 4-6): (11) post-tests for grades 2-3 and 4-6, (12) sources (11) post-tests for grades 2-3 and 4-6. (12) sources and materials (student references and teacher references/references used in preparing this Packet, including publications, audio-visual materials, aquarium equipment suppliers, manife life suppliers, and local resources such as scafood restaurants, local fishermen, and bast/tackle shops); and (13) answers to seek-and-find puzzle, crossword puzzles, and post-tests. (JN)

Middle/Secondary

SE 010 745 ED 046 781

Junior Biology) Populations. Hamilton City Board of Education (Ontario) Pub Date (70)

Note-51p EDRS Price MF-S0.65 HC-\$3.29

Descriptors— Biology, Ecology, Environmental Education, Instructional Materials, Learning Activities, Population Distribution, Population

Growth, Secondary School Strence, Student

Research Twenty-one studies related to populations are included in this student manual for a junior high school biology course. Each activity or study provides questions, oragrams, experiments, and or descriptive material to which the student must respond Population studies pertain to individual pients and animals, their physical environments. reactions between species, and their interrelation. sheps. (BL)

FD 082 978

SE 016 651

Nurabrigit. Robitt G

As Air Pollution Resource Manual for Junior High School and High School Teachers. State Univ of New York Albany Research

Foundation

Spons Agency-National Science Foundation, Washington, D.C.

Pub Date Aug 71

Note - 360p

EDRS Price MF.SO.6S HC-S13.16

Descriptors- * Air Pollution Control. *Environmental Education, Humannics, Intervetional Materials, Lesson Plans, Manuals, Resource Units, Sciences, *Secondary Grades, Social

Sciences, *Teaching Guides
This manual was conceived and developed by a team of teachers and subject matter expens from diverse areas and planned as a resource for teachers at the middle school and high school levels who are concerned with air pollution. Not intended as a syllabus or student text. If offers th formation and sample etereises which may be incorporated into a variety of subject areas together with data, charts, and illustrations which may be useful in classroom situations. The manual is essentially in four sections (1) baste background in the scientific and societal originsof the problem of air pollution (scientific...com-position and structure of the atmosphere, thermal energy and its effects. Physical processes, local topographic effects, effects of cities, and interact. ing atmospheric subsystems, societal-historical perspectives system of relations among the dividuals. long range consequences, change and sdaptation and impetus for solutions), (2) treatment of the nature and scope of man's activities which contribute to air pottution, including primary industries process industries, transportation, service industries governmental activities, community activities, and recreational activities. (3) tample esercises in the seiences, social sciences, and humanities, and (4) bibliography Each section is treated comprehensively. (BL)

ED 099 214 95 Edwards, William C Larson, Robert J Environmental Activities, Junior High School.

Laramie County School District 1. Cheyenne.

Spons Agency-Buteau of Elementary and Secondary Education (DHEW/OE), Washington. D C Pub Date 73

Note-94p.

EDRS-Price MF-\$0.75 HC-\$4.20 PLUS POSTAGE

Descriptors-Conservation Education. *Curneu jum Guides, Ectougy, Educational Programs, Environmental Education, "Instructional Materials, Interdisciplinary Approach, "Junior High Schools, "Learning Activities, Lesson Plans, Natural Resources, Outdoor Education, Program Development, Science Education (Institutes, Elements, Carolinary Education)

Identifiers—Elementary Secondary Education Act
Title III, ESEA Title III

The guide, for use at the junior high level, is simed ar helping our youth become more

knowledgeable concerning the environment and associated problems, thus making them aware of how to solve these problems and motivating them to work toward their solution. Among the subjeets discussed are art in nature, erosion, body pollution, water pollution, finding edible plants for food, outdoor cooking, noise pollution, television and the ecology image cemeteres, watersheds, recycling, natural dyes, and aesthetics Each learning activity includes behavioral objectives, directions to the teacher and students, materials needed, references, and a listing of related audiovisual materials. This guide is designed to help teachers effectively implement environmental education into the classroom. (BT)

ED 099 229 SE 018 432 Junglas, Mary R And Others Environmental Learning Experiences: Bio-Physi-

cal, Junior High School, Willoughby Eastlake School Distnet, Willoughby,

Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE), Washing-

ton. D.C. Pub Date 74

Note-97p EDRS Price MF-\$0.75 HC-\$4.20 PLUS POSTAGE

lum Guides, Environment. Education Instructional Materials, Junior High School Students, Learning Activities, Natural Resources *Seiences. *Secondary Education.
*Secondary School Science. Teaching Guides
Identifiers—Elementary Secondary Education Acr

Title III. ESEA Title III

This environmental education curriculum guide was developed for teacher use at the junior high school level. Although the guide deals with the bio-physical aspects of the environment, it is designed to encourage an integration of the disciplines into an inter-disciplinary approach. The volume consists of a set of ideas, activities, and opinions which will help teachers and students generate a positive approach to the environment. The guide is divided into the following six units. Earth Thoughts, which deals with value etainfeation. Quality of Life, which examines the quality of equironmental components. Environmental Inventory, which presents methods for conducting an environmental inventory and analyus. Environmental Management, which identifies procedures used to monitor, control, and change the environment. Community Problems, which suggests steps for investigating community encironmental problems, and Futurism, an activity oriented unit, which involves students in creative thinking and profices solving Each unit contains an introduction, stating the purpose and background, instructional objectives, esperiences, and references. The experiences of each unit are hased on objectives which relate to the subject of the unit Several activities, which reflect and reinforce the objective, are included in each espersence (TK)

ED 699 231 SE 018 434 Junglas, Mary R. And Others

Environmental Learning Experiences: Socio-Cultural, Junior High School.

· Willoughby-Eastlake School District, Willoughby.

Soons Agency pons Agency—Bureau of Elementary and Secondary Education (DHEW/OE), Washington, D.C. Pub Date 74

Note-74p EDRS P MF-\$0.75 HC-\$3.15 PLUS DRS Price POSTAGE

Descriptors-Conservation Education, *Curneu-Guides, Environment, Environment, Junior ation. *Instructional Materials. Junior Activities, Education. High School Students, Learning Activities, Natural Resources, *Secondary Education, *Sociocultural Patterns, Teaching Guides

Identifiers-Elementary Secondary Education Act Title III, ESEA Tale III

was developed for teacher use at the jumor high school level. Although the guide deals with the socio-cultural aspects of the environment, it is designed to encourage an integration of the disciplines into an inter-disciplinary approach. The volume consists of a set of ideas, activities. and opinions which will help teachers and students generate a positive approach to the environment. The guide is divided into the following seven units: Earth Thoughts, which esamines vanous viewpoints of man's relationship to the environment. Quality of Life, which encourages the student to examine and evaluate his life goals. Environmental inventory, when deals with the processes of research, observation, evaluation and organization: Environmental Management, which examines how one's community deals with concoms related to environmental management. Environmental Politics, which looks at environmen. tul realities. Community Problems, which esproblems, and Futorism, which considers the problems, who restored where considers the stress of technological change Euch unit contains an introduction, stating the purpose and background instructional objectives, experiences and references. The experiences of each unit are based on an objective which relates to the subject of the unn. Several activities are included in each experience. (TK)

This environmental education curriculum guide

ED 103 238 SE 018 519 Fish and Water Temperature. An Environmental Intestigation.

Minnesota Environmental Sciences Foundation. Inc., Minneapolis, National Widdife Federa-tion, Washington, D. C.

Pub Date 71 Note-24p., Related documents are SE 018 514-

534 Available from-National Wildlife Federation.

1412 16th Street, N.W., Washington, D.C. 20036 (Order No. 79070, S1 50) DRS Price MF-\$0.76 HC-\$1.58 PLUS

EDRS POSTAGE-

Descriptors—Elementary Grades. *Environmental Education. Instructional Materials. Inter-mediate Grades, Investigations. Junior High Sehools. *Learning Activities, Natural Resources, *Physiology. *Science Education. Secondary Grades. *Teaching Guides. Tem-Schools. Secondary Grades. Defatute.

Identifiers-Fish

This environmental unit is one of a series designed for integration within an existing cut-riculum. The unit is self-contained and requires minimal teacher preparation. The philosophy of this series is based on an esperience-oriented process that encourages self-paced independent student work. This particular unit illustrates the interrelationship between living things and their environment. The activities are concerned with the effects of water temperature on finh. Students learn to make observations, collect data, and use graphs to interpret information. The unit is designed for students in graces 4-9 Additional. more sophisticated investigations are included at the end of the materials. Materials, directions, and background information are included for the teacher's convenience. A short bibliography for students and reachers is provided (MA)

SE 018 520 Genetic Variation, An Environmental Investigation.

Minnesota Environmental Sciences Foundation. Inc., Minneapolis.; National Wildlife Federa-Pub Date 72

Note-25p., Related documents are SE 018 53 4-

Available from-National Wildlife Federation, 1412 16th Street, N.W. Wathington, D.C. 20036 (Order No. 79723, St. 50) EDRS Price: -MF.S0.76 IIC.S1.58 PLUS DRS Price

Descriptors-Elementary Grades, * Environmental Instructional Materials. • Inter-Education. mediate Grades, Investigations, Junior High

Schoola, *Learning Activities, Natural Resources, Population Education, *Science Education, *Secondary Grades, *Teaching

This environmental unit is one of a series designed for integration within an existing curriculum. The unit is self-contained and requires reculum. The unit is sent-contained and equation wery little seather preparation. The philosophy of this series is based on an experience-oriented process that encourages self-paced independent student septore possible explanations for diversity within populations. The activities are divided into two sections, the first being concerned with the human populations, and the second with seed Populations Students are asked to make observations of variability in physical characteristics of classificates and to develop hereditary patterns by constructing a family usee. Observations of physical characteristics of seeds and their distribution are also included. This unit is designed for students in grades 4-9 It includes a list of materials needed. background teacher information, directions, additional topics, and short teacher and student bibliographies. (MA)

ED 103 251 SE 018 532 Stream Profiles, An Environmental Investigation.

Minnesota Environmental Sciences Foundation. Inc., Minneapolis, National Wildlife Federa-tion, Washington, D. C. Pub Date 72

Note-16p., Related documents atc SE 018 514.

Available from National Wildlife Federation.
1412 16th Street, N.W., Washington, D.C.
20036 (Order No. 79203, \$1.00)
EDRS Price MF.\$0.76 HC-\$1.58 PLUS

POSTAGE
Descriptors—"Ecology: Elementary Grades, "Environmental Education, "Field Studies, Instructional Materials, Intermediate Grades, Investigations, Junior High Schools, "Learning Activities, Natural Resources, Outdoor Education, *Science Education, Secondary Grades, Teaching Guides Identifiers—*Streams

This environmental unit is one of a series designed for integration within an existing eur-ficulum. The unit is colf-contained and requires minimal teacher preparation. The philosophy of the units is based on an expenence-oriented process that encourages will paced independent student work. In this unit, students construct a stream profile based on information collected at a portion of a total stream. Teams of three, working ten feet apart are responsible tor recording data on temperature, elevation, type of stream bottom, and plants and animals in the section The data are then combined with the rest of the class and the profile drawn Students are prompted to note patterns described by the stream profile and to relate that information to other similar streams. For tembers, the unit includes directions for building the equipment needed, ways of organising a field top to the stream area, methods of collecting-and recording data, and questions for discussion. The activities can be used with students in grades 4-9 (MA)

88 SE 018 507 Marine Ecology Research Resource Units Grades 7-9. Druff.

Contra Costa County Dept of Education. Pleasant Hill. Calif

Pub Date Sep 74

Nute-178p Price MF-\$0.76" "HC-\$9.51 PLUS EDRN POSTAGE

Description—Earth Science; *Ecology, Environmental Education. *Learning Activities. *Oceanology., Outdoor Education. *Science Education. *Secondary Education. Teacher Education, *Second; Developed Materials

Identifiers-California, Elementary Secondary Education Act Title III. ESEA Title III-

Project Marine Feblogy Research (MER) is an ecological tinit designed to involve secondary stu-dents in the study of the marine biome. The teachers are also involved with MCR through innorte pameipation and materials pieparation The onit is designed to be incorregated wittin the existing science curriculum Specifically, the activities concern the study of the Sun Françoisco

Bay area-its geology, geography, climate and weather, wave and tide action, and currents Each of the four activity sections are arranged similarly. The Introduction includes background information for the teacher and a list of educational objectives. The appendix contains the actwitter as well as charts maps, statistics, and other pertinent information Each section ends with a bibliography (MA)

SE 021 181 A Teacher's Introduction to Energy and Energy Conservation: Secondary.

Battelle Memonal Inst., Columbus, Ohio, Center for Improved Education 2 Ohio State Dept of Education, Columbus.

Spons Agency-Office of Education (DHEW).
Washington, D.C.
Pub Date 75

Note-97p. For related document, SE021180. Photographs may not reproduce

Available from-Division of Education Redesign and Renewal, Ohio Dept of Education, 65 South Front St., Columbus. Ohio 43215 (no

price Quoted)

EDRS Price MF-\$0.83 HC-\$4.67 Plus Portage.

Descriptors—Curriculum. "Energy. "Energy Conscriptors.

Science Education. Secondary Education. *Secondary School Science. *Teaching Guides Identifiers—*Ohio

 This document is intended to give the secondary school teacher background information and general suggestions for teaching units and correlated learning activities related to energy and energy conservation Sections are directed to A Problem Shared by Alt. Causes. What is Energy?. Energy Sources, Searching for Solutions, Cons vation. An Ethic for Everyone, a glossary, and an estensive bibliography (MH)

ED 128 185 SE 020 976 Ferreiro, Rosemary C. ECOLOGY (Earth's Cycle of Lifer Operational Geosphere Study). Pub Date [Apr 76]

Note—80p.; Not available in hard copy due to marginal legibility (light and broken type) throughout original document EDRS Price MF-50.83 Plus Postage. HC Not

Available from EDRS.

Descriptors-Curriculum. *Ecology. *Environmental Education. Interdisciplinary Approach.

*Program Descriptions, Science Education.

Science Materials, Secondary Education.

*Secondary School Science, *Units of Study (Subject Fields)

Presented is an environmental science mist. disciplinary learning program designed for use on the junior high or senior high school level. It includes learning activities coordinated with behavioral objectives as well as an Ecology Game. The program is composed of seven modules, each of which deals with an element of the science of ecology. The modules are subdi-vided into sequences and units, each addressing specific ecological concepts. The instructional approach employed is founded on the use of process oriensed learning activities built around cognitive, psychomotor and affective behavioral objectives. The learning activities include laboratory investigations, role playing, literature research, class field trips, as well as games. (Author/EB)

SE 022-667 Where Have All the Menhaden Gone? A Learning Experience for Coastal and Oceanic Awareness Studies, Sn. 209, [Project COAST].

Spots Agency—Office of Education (DHEW), washingtoni-O C

Pub Date 74
Notes = 27p For related documents, see SE 022 Note--27p For related documents, see 662-687, Comming occasional light type EDRS Price MF-S0.83 HC-\$2 06 Plus Postage

Descriptors of tementary School Science. Ellementary Secondary Education, "Instructional
Afaterials "Marine Biology. "Oceanology.
"Population Trends, Secondary School Science.
"Teaching Guides Units of Study.
Identifiers..." Fish. Project COAST
This unit frequest on the Concept that populaforms of marine operations are approach on

from of marine organisms are uneventy our

triouted It is designed for upper elementary and chouse of its designed for upper elementary and case order states 6-10 class periods. Students become involved in identifring various causes of the uneven distribution of manne populations, especially that of the menhaden population Because no conclusive the deline the students are laced with the dilemma that there are no actual answers to the Problems Included in the unit are student materi. ab. teaching suggestions, transparency musters, evaluation materials, and telected references

SÉ 028 407. ED 173 159 Tullock, Bruce, Ed And thers Solar Energy Project, Activities: Junior High Science.

Department of Energy, Washington, D.C., New York State Education Dept . Albany Bureau of Science Education . State Univ of New York Albany. Atmospheric Science Research Center Report No - DOE-CS-0062 Pub Date-Jan 79

Note-114p., For related documents, see SE 028 406-413

Available from-Superintendent of Documents. U.S. Government Printing Office, Washington, D.C. 20402 (Stock Number 061-000-00228-6. 52 75)

Pub Type- Guides - Classroom - Teacher (052) EDRS Price · MF01/PC05 Plus Postage.

Descriptors-Class Activities, Energy, Environmental Education. Junior High Schools. *Lesson Plans. *Science Cutriculum. *Science Education. Science Experiments. *Secondars Education. *Solar Radiation. Technological Advancement. Technology

Identifiers-Energy Education "Solar Energy

This guide contains lesson plans and outlines of science activities which present concepts of solar energy in the context of the junior high science curriculum. Each unit Presents an introduction, objectives, skills and knowledge needed, materials, methods, questions, recommendations for further work, and a teacher information sheet. The teacher information sheet presents the target grade levels. the areas of science involved in the lesson, back-ground information, hints on gathering materials. suggested time allotment, suggested approach, typecal results, precautions; modifications, and evaluation (RE)

ED 179 793 CE 023 548 O'Bnen. Alexander

Collecting Solar Energy, Solar Energy Education Project. Howell Township Board of Education. N J
Spons Agency—New Jerse; State Dept of Education. Trenton Div of Vocational Education.
Pub Date—[79]
Note—15p. D agrams in this document may not

reproduce well. For related documents see CE 023 547-550 ab Type- Guides · Classroom · Teacher (052)

EDRS Price - MF01/PC01 Plus Postage, Descriptors—Career Awareness, *Energy, Juntor High Schools, Learning Act sities, Learning Modules, Scientific Concepts, "Solar Radiation

This solar energy learning module for use with junior high school students offers a list of activities. a Pre-post tess, 300 titles, basic solar energy vocabulary, and diagrams of solar energy collectors and installations. The purpose is to familiarite students with applications of solar energy and utiles of jobs where this knowledge could be applied. (CP)

ED 179 794 Consider Marie Ann Solar Energy and Reference Skills, Solar Energy Education Project,

Howell Township Board of Education, NJ Spons Agency—New Jersey State-Dect of Educa-tion. Trenton Div of Vocational Education. Pub Date-(79)

Note—lip. For related documents see CE 023 547-550 Pub Type— Guides Classroom - Teacher (022)

Descriptors—Class Activities. "Energy. "Group Activities, Junior High Schools." Larguage Arts. Learning Modules, Eiprary Skills, Scientific Concepts. "Solar Radiation." Student Research This language aris learning module offers a struc-

ture to teachers for leading juntor high school class activities to investigate solar energy, its ongin, and effect. The module furnishes a pre-post test, a schedule for library and research work, a basic wocabulary fish and a bibliography. (CP)

ED 182 110 SE 029 397 . . .

Bernstein, Leopord, Ed. Environmental Science, Grade 9, Experimental Carriculum Bulletin.

New York City Board of Education Brooklyn, NY Div. of Curriculum and Instruction Pub Date: 79

Pub Date- 79
Note- 185p; Not available to hard copy due to copyright restrictions. Contains numerous light and broken type, Best copy at anable
Available from Board of Ed. Lation of the City of New York, Publication Sales Office. 110 Livingaton St., Brooklyn, NY 17201 (56 50, maxechecks Payable to Auditor Buard of Education)
Pub Type— Guides - Classform - Teacher (052)
EDRS Price - MF01 Plus Postage, PC Not Available from EDRS.

ble from EDRS. Descriptors-Cuersallum, Environmental Education, *Grade 9, *Instructional Materials, Interdisciplinary Approach. Junior High Schools. Learning Activities, Science Curriculum Science Education, Science Instruction, *Secondary Edu-cation, *Urban Schools This is the teacher's guide for the required, inter-

disciplinary, ninth-year environmental science course for the New York City Schools One hun-dred twenty lesson plans, divided into nine units. are presented. Areas of study include the living and non-lising environment, ecosystems, population, urban ecology, energy and technology, pollution, and environmental analysis Individual lessons are conceptualized and process oriented. Each lesson contains enrichment material for investigating areas. of interest. Student laborator, worksheets and data sheets are included. The appendices contain suggested field trip site v. student projects, sciented stu-dent and teacher references resource organizations, career information, and sources of audio-visual matenals (ВТ)

ED 182 132

SE 029 773

Hunt, Pete And Others
Idaho Energy Conservation Resource Guide for Health Education, Grades 7-13

Idaho State Dept of Education, Boisc., Idaho State Office of Energy, Boise

Spons Agency-Department of Energy, Washington, D.C

Pub Date-Feb 79

Note—29p: For related documents, ace SE 029 772-778. Printed on colored background Pub Type— Guides - Classroom - Teacher (052) EDRS Price - MF01 Plus Postage, PC Not A-miabic from EDRS.

Descriptors-Depleted Resources. *Energy Conservation, Environment, *Environmental Education. *Health Education. Natural Resources. *Resource Guides, *Secondary Education. Social *alues. *Teaching Guides

This manual is a resource guide on energy conservation for the teaching of health education. It contains 12 student activities which are grouped into four goal oriented units. The main objectives of the project are to increase the student's understanding that: (1) Natural laws limit energy availability, (2) Energy consumption affects both man and his envir conment. (3) Human values and attitudes affect energy usage: and (4) Energy consumption is necessary to maintain our life style. (SB)

ED 182 133

SE 029 774

Briger John And Others
Idaho Energy Conservation Resource Guide for Mathematics, Grades 7-12.

Idaho State Dept of Education, Boise, Idaho State Office of Energy, Boise

Spons Agency—Department of Energy, Washing-ton, D.C. Pub Date-Feb 79

Note—35p. For related documents, see SE 039
772-778 Printed on colored background
Pub Type— Guides - Classroom - Teacher (052)
LDR5 Price - NF01 Plus Postage, PC Not Availa-

ble from EDRS. Descriptors Depleted Resources. Energy Conservation Environment. Environmental Education. *Mathematics. Mathematics Education. Natural Resources. *Resource Guides, *Secondary Education, Social Values, *Teaching Guides

This manual is a resource guide on energy conservation for teaching mathematics from grades seven to twelve It contains 25 student activities which are grouped into four goal oriented units. The main ob-Jectives of the project are to increase the student's understanding that (1) Natural laws limit energy availability. (2) Energy consumption affects both man and his environment. (3) Human values and attitudes affect energy usage, and (4) Energy consumption is necessary to maintain our life style (3B)

ED 182 135 SE 029 776

Higdem. Mary And Others
Idaho Energy Conservation Resource Guide for Science, Grades 7-12.

Idaho State Dept. of Education, Boise, Idaho State

Office of Energy, Boise, Spons Agency-Department of Energy, Washington. D.C.

Pub Date-Feb 79 Note-31p.: For related documents, see SE 029 772-778 Printed on colored background. & Pub Type— Guides · Classroom · Teacher (052) EDRS Price · MF01 Plus Postage. PC Not Assaiable from EDRS.

Descriptors—Depleted Resources, "Energy Con-servation, Environment, "Environmental Educa-tion, Natural Resources, "Resource Guides, "Science Activities, Sciences, "Secondary Educa-tion, Social Values, "Teaching Guides

This manual is a resource guide on energy conservation for teachers of science students from grades varion to teachers of selence stodens from grades seven to twelve. It contains 12 student activities which are grouped into four foal oriented units. The main objectives of the project are to increase the student's understanding that. (1) Natural laws limit energy availability. (2) Energy consumption affects both man and his environment: (3) Human values and attitudes affect energy usage, and (4) Energy consumption is necessary to maintain our lifestyle-

ED 182 137

SE 029 778.

Cartes. Lee And Others Idaho Energy Conscruation Resource Guide for Industrial Arts Education.

Idaho State Dept of Education. Boise.; Idaho State
Office of Energy. Boise.; Idaho Univ. Moscow.
Spons Agency—Department of Energy, Washington. D C.

Pub Date - 79

Note-145p; For related documents, see SE 029 772-777. Contains light and broken type. Pula Type- Guides - Classroom - Teacher (052)

FDRS Price - MF01 PC06 Plus Postage.
Descriptors—*Class Activities. *Energy. *Energy
Conservation Fue. Consumption, Fuels, Heating.
*Industrial Arts Interdisciplinary Approach,
Mathematics Education. *Science Education. Secondary Education, Solar Radiation

This resource guide was prepared to assist teachers, in incorporating energy concerns within the school curnoulum. It is intended to provide a basic framework of objectives for different subject areas and to provide examples of activities for teaching towards the stated exceptives. Resources are listed to aid the teacher in ceveloping additional activities.
The resource guide is based on the assumption that its contents will provide a starting point and that teachers will go further in desisting lesspas in energy instruction. (Author)

ED 186 282 SE 030 761 Energy Systems - Present, Future: Extra Terrestri-

als, Grades 7. 8, 9./Science. National Science Teachers Association, Washington, D.C.

Sports Agency—Department of Energy, Washington, D.C. Office of Consumer Affairs.

Report NO.—DOE/CA/06083-03

Report NO.—DOE/CA/06083-03
Pub Date—Apr 80
Contract—EC-77-C-01-6083
Note—139p.
Pub Type— Guidea - Classroom · Teacher (052)
EDRS Price - MF01/PC06 Plus Postage.
Descriptors—°Curriculum Development · Energy,
Energy Conservation. Fuel Consumption. Inattractional Materials, Nuclear Physics · Science
Curriculum · Science Education. Secondary Edu-Curriculum, *Science Education, Secondary Education, Secondary School Science, Solar Radiation. *Systems Approach. *Technological Advancement

Identifiers- Energy Education

The 12 lessons presented in this guide are struc-tured so that they may be integrated into science lessons in 7th., 8th., or 9th-figures. Suggestions are made for extension of study Lessons are approached through classroom rote-playing of outer space visitors who seek to understand energy conversion principles used on Earth. Major emphasis is placed on energy flow-through systems. Energy alternatives for the future are also examined. (Au-

ED 190 360 SE 031 304

Bonon, John R., Ed. Hathway, James A., Ed. Probing the Natural World, Level III, Student Guide: Enotronmental Science, Intermediate Science Curriculum Study.

Florida State Univ., Taliahassee, Dept. of Science Education.

Spons Agency—National Science Foundation, Washington, D.C., Office of Education (DHEW), Washington, D.C. Pub Date -- 72

Note—160p For related documents, see SE 031 300-330, ED 035 559-560, ED 049 032, and ED 052 940. Contains photographs and colored and shaded drawings and Print which may not reproduce well

Pub Type- Guides - Classroom - Learner (051) EDPS Price - MF01/PC07 Plus Postage. Descriptors-Environmental Education. Grade 9.

**Individualized Instruction, Industry, Instruc-tional Vlateriais, Junior High Schools, *Labora-tory Manuals, Laboratory Procedures, Natural Resources, *Science Activities, Science Course Improvement Projects, Science Education, Secondary Education, Secondary School Science, *Water Pollution

identifiers-Intermediate Setence Curreulum

This is the student's edition of one of the Intermediate Science Curriculum Study (ISCS) units for level III students (grade 9). The chapters contain basic information about environmental pollution and hazards, activities related to the 505)ect, and optional excursions. A section on introductory notes to the student discusses how to use the book and how the class will be organized. Data tables and empty spaces within the workbook format indicate where responses are expected litustrations accompany all instructions and the students are encouraged to select the proper equipment based on the illustrations (SA)

ED 190 361 SE 031 305 Bonar, John R., Ed. Hathway, James A., Ed. Probing the Natural World, Level III. Teacher's

Edition. Environmental Science. Intermediate Science Curnculum Study.

Florida State Univ. Tallahassee Dept of Science Éducation.

Spons Agency—National Science Foundation, Washington, D.C., Office of Education (DHEW), Washington, D.C.

Note—168P. For related documents, see SE 031 300-330, ED 035 559-560, ED 049 032, and ED 052 940. Contains photographs and colored and shaded drawings and print which may not reproduce well

Pub Type - Guides - Classroom - Teacher (052)

Pub 11 pe— Guides - Classroom - Cacnes (052) EDRS Price - MF01/PC07 Plus Postage, Descriptors—Ensironmental Education, Grade 9, *Individualized Instruction, Industry, Instruc-tional Materials, Junior High Schools, Laboratory Manuals, Laboratory Procedures, Natural Resources, *Science Activities, Science Course Improvement Projects, Science Education, Secondary Education, Secondary School Science,

*Water Pollution
Identifiers-*Intermediate Science Curnewlum Study

This is the teacher's edition of one of the eight units of the Intermediate Science Curriculum Study (ISCS) for level III students (grade 9). This unit and its activities focuses on environmental Pollution and hazards. Optional excursions are suggested for students who wish to study an area in greater depth. An introduction describes the problem of air pollution. pesticides, water pollution, and population increases Illustrations accompany the leat (SA)

SE 031 306 ED 190 362 Bonas, John R. Ed Hathway, James A. Ed Probing the Natural World, Level Ill, Record Book, Student Guide: Environmental Science. Intermediate Science Curriculum Stud). Florida State Univ., Taliahassee Depi of Science

Education.

pons Agency—National Science Foundation.
Washington, D.C., Office of Education (DHEW),
Washington, D.C.

Pub Date—72 Note—78p. For related documents, see SE 031 300-330, ED 035 559-560, ED 049 032, and ED 052 940

Pub Type— Guides - Clatsroom - Learner (051)
EDRS Price - MF01/PC04 Plus Postaga.
Descriptors—Environmental Education. Grade 9,
*Individualized Instruction. Industry. Instructional Materials, Junior High Schools. *Labora-Resources. Records (Forms). *Science Activities.
Seience Course Improvement Projects. Science Education. Secondary Education. Secondary
School Science, Worksheets

Identifiers-Intermediate Science Curnculum

Study

This is the student's edition of the Record Book which accompanie the unit "Environmental Science" of the Intermediate Science Curriculum Study (ISCS) for le. (... lif students (grade 9) Space is provided for answers to the questions from the student's text as we, as for the optional excursions and the self evaluation. An introductory note to the student explains how to use the book. (SA)

SE 031 307

Bonat. John R. Ed Hathway. James A. Ed Probing the Natural World. Level III. Record Book. Teacher's Edition: Environmental Science. Intermediate Science Curriculum Study.

Florida State Univ., Tallahassee. Dept. of Science

Spons Agency—National Science Foundation, Washington, D.C. Office of Education (DHEW), Washington, D.C.

Pub Date—72 Note—79p. For related documents, see SE 031 300-330, ED 035 559-560, ED 049 032, and ED 052 940. Contains colored pint which may not

05.7 940. Contains colored point which may doe reproduce well.

Pub Type—Guides - Classroom - Teacher (052)

EDRS Price - MF01/PC04 Plus Postage.

Descriptors—Answer Sheets. Environmental Education. Grade 9. Individualised Instruction. Industry. Instructional Materials. Junior High Schools. *Laboratory Manuals. Laboratory Procedures. *Natural - Resources, Records Procedures. Natural Resources, Records (Forms). Science Activities, Science Course Im-provement Projects, Science Education, Secondary Education, Secondary School Science Identifiers-Intermediate Science Cuen

Cuenculum

This is the teacher's edition of the Record Book for the unit "Ensironmental Science" of the Intermediate Science Curriculum Study (ISCS) for level III students (grade 9) The correct answers to the questions from the student text are recorded. An introductory note to the teacher explains how to use the book. Answers are included for the activities and excursions. A self evaluation section is followed by its answer key (SA)

SE 032 958

Hunt, John D. Ed. Marine Organisms to Science Teaching. Teass A and M Univ., College Station, Sea Grant Coll. Program.

Coll. Program.

Spons Agency—National Oceanic and Atmospheric Administration (DOC), Rockville. Md. National Sea Grant Program.

Report No —TAMU-5G-80-403

Pub Date—Sep 80

Grant—NA79AA-D.00127

Note—1939.

Note—198p.

Available from—Marine Information Service. Sea Grant College Program. Texas A&M University, College Station, TX 77843 (Order No. AMU-SO-80-403; 54-00)

Pub Type— Guides - Classroom - Leamer (051)

EDRS Price - MF01/PC08 Plus Postage.

Descriptors—Biology, Elementary Secondary Education. *Inquiry. *Laboratory Experiments, *Matine Biology, Oceanography. *Science Activities, Science Curriculum, Science Education

This collection of student activities for grades four through twelve presents action-oriented experiences with hardy aquatic organisms as the foundation for a laboratory-oriented science program. The fotmat is characterised by pre-lab, post-lab, and studem sections. Pre-lab topics include level, concepts, facts, suggested prerequisite skills, student performance objectives, materials, time, cautions, and definition of terms. The teacher's post-lab section includes possible answers to questions, discussion, evaluation, follow-up experiences, and references. Student sections, appropriate for copying, contain general information, objectives, materials, atudent discovery activities, and processes (CS)

ED 198 011 SE 034 398

Mauldin Lundie Frankenberg, Dirk. North Carolina Marine Education Manual, Luit Two: Seawater.

North Carolina State-Univ., Rafeigh, Sea Grant Cell.

Emins Agency-National Oceanic and Atmos-Pierie Administration (DOC), Rockville, Md. State Dept of Administration, Raleigh. Papers No -- UNC-SG-78-14-B

P. Date-Aug 78

Grent-NOAA-04-6-158-44054

Note-90p. For related documents, see SE 034 197.401

A - a Jable from - UNC Sea Grant, 105 1911 Buildarg. North Carolina State Univ., Raleigh, NC 27607 (51.50).

.: Type- Guides - Gassroom - Teacher (052) EDRS Price - MF01/PC04 Plus PostaRe.

Descriptors- *Earth Seience, Environmental Education, Geology, Junior High Schools, *Oceanog-rathy, Passics, *Science Education, Science instruction. Secondary Education. *Secondary School Science. *Water Resources

Identifiers—Coastal Zones, Waves
Although North Carplina's coastal water is enemically and physically similar to other bodies of sea water, the specific manner in which tides and waves act upon the coastline is unique. Accordingly, the 30 activities presented in this manual are intended to belp jurior high school students understand how physical forces modify coastal areas While some lessons relate specifically to North Carolina, the majority address more general concepts of saunity, density, nument content, tidaforces, and wave motion. Each section contains background reading, vocabulary, 4 to 14 activities, and information on films, books, and other related resources. Also provided are a table depicting the resmonship between the activities and state conresulted gardelines, and a summer of this unit's goals and behavioral objectives. The manual is one of councilion developed by North Carolina teach. ers and university faculty under a Sea Grant project couled " Man and the Seacoast" (WB)

ED 198 612 SE 034 399

Mauldin, Lund e Frankenberg, Dirk North Carolina Marine Education Manual, Unit

Three: Coastal Ecology.
North Carolina State Univ., Raleigh Sea Grant Coll.

Spons Agency-National Oceanic and Atmos-Pheric Administration (DOC), Rockville, Md. National Sea Grant Program: North Carolina State Dept. of Administration, Releigh, Report No -UNC-SG-78-14-C Pub Date-Aug 78 Grant-NOAA-04-6-158-44054

ote-114p. For related documents, see SE 034 397.401.

Available from—UNC Sea Grant, 105 1911 Building, North Carolina State Univ., Raleigh, NC 2*607 (51.50).

Peb Type- Guides - Classroom - Teacher (052)

LDRS Price - MF01/PC05 Plus Postage.

LDRS Price - MF01/PC05 Plus Postage.

Descriptors—Biology, *Ecology, *Environmental

Education, Junior High Schools, *Marine Biology, Outdoor Education, *Science Education,

Science Instruction, Secondary Education, *Sec-

endary School Squence Two dosen activities on the ecology of coastal areas with special emphasis on North Carolina's craftline comprise this manual for Junior high

school, science teachers. Provided are a table cor-relating these lessons with atate curriculum guide-17% and a summary of the unit's goals and occasional objectives. Among the topics included are coastal hantais, fish, plankton, intertidal organiams and food chains Each section contains back. ground information, vocabulary, 2 to 12 activities, ar a list of films, books, and other related resources. This manual is one of a collection produced b) North Carolina teachers and university faculty under the Man and the Scacoast" project funded by Sea Grant (WB)

ED 199 114

SE, 034 682

Simonis Doris G

Towa Developed Energy Activity Sampler (IDEAS), Grades 7-12: Science.

lowa Energy Policy Council. Des Moines, Iowa State Dept of Public Instruction. Des Moires

State Dept of Public Instruction, Des viol. C. Pub Date—80
Note—313p For related documents see SE 034
677-683 Pages 328, 377-380, 429-432, 468 274, 485 removed due to copyright restrictions. Pages 19-172 contain the introduction which is the same

19-172 contain the introduction which is the same for all modules. They have been terrioved said made into a separate document. SE 03a 6. Pub Type—Guides. Classroom. Teacher: (052) EDRS Price. MF01 PC13 Plus Postage. Descriptors.—*Energy Energy Consecution. *Environmental Education. Fueed Curriculum Futures (of Society). Physics. *Science Education. *Secondary Education. *Secondary Education. *Secondary Education.

Secondary School Science, Technology
Presented is the Science component of the lowa
Developed Energy Activity Sampler (IDEAS), a
multidisciplinary energy education program designed for infusion into the entriculum of grades 7-12. Also contained in the program are activity sets for Home Economics (SE 034 6°3), Industrial Arts (SE 034 6°4), Language Arts (SE 034 680). Misthematics (SE 034 681), and Social Studies (SE 034 683). Contained in this manual are the \$5 squarecentered attivities from the complete IDEAS .utreculum that relate to secondary science. To fine of the lesson include energy flow thermidynamics, energy limits, alternative energy sources life tryles. energy times, alternative energy sources like tyes, and insulation. Activities are arranged under six concepts, (1) Energy is basile (2) Energy welliness is limited. (3) The environment is artested by energy exchanges. (4) Energy whoses affect society. (5) Conservation and (6) The future is ours to shape and share. Lesson plans include discussion questions and background information and they are usually illustrated with shape. Michael and desired and desired and shape and are determined. ally illustrated with charts diagrams of drawings (Author WB)

ED 201 508

SE 034 853

Dickman, Donna McCord Preparing for a Quieter Tomorrow.

Metropolitan Washington Council of Governments. Washington, D.C.

Spons Agency—Environmental Protection Agency. Washington, D.C. Office of Noise Abatement and Control.

Pub Date—May 80 Note—89P.: For related documents, see SE 034 854-855.

834-855.
Pub Type— Guides - Classroom - Tescher (052)
EDRS Price - MF01/PC04 Plus Postake.
Descriptors— *Acousnesi Environment *Acoustics. Citizen Participation. Community Problems.
 *Environmental Education. Health Education.
Physics, *Poliution. *Science Education. Second-

ary Education, Social Studies Identifiers- Noise (Sound)

Presented is an environmental noise module developed as an instructional guide for teachers in states seven through twelve. The guide consists of eight lecture summanes on noise-ferated topics including characteristics of sound, sound measurement, noise control, and the effects of poise on humans Accompanying these summanes are suggested projects of-periments, field trips, films, readings and discussion questions. The module's goal is to assist tereners in creating an awareness of noise as an onvironmental . pollntant, explaining the adverse effects of no seidentifying noise sources and control team ques, and attimulating student involvement in working for a quieter community environment, (Aumor WB)

ED 207 824 SE 0.35 61 Fall's Randolph R., Jr. Reese, D. Chris Counting on Energy, Project E3 (Energy, Econom-SE 035 614



ics, and the Environment). Montgomery County Intermediate Unit 23. Blue

Spons Agenc)—Burean of Elementary and Second-ary Education (DHEW/OE), Washington, D.C.;

Pennsylvania State Dept. of Education, Harrisburg. Pub Date---\$0

Grant...76495C Note...126p. Pat Type... Ouides · Classroom · Teacher (052) Pub Type— Ouides - Classroom - Teach EDRS Price - MF01/PC06 Plus Postage.

Descriptors—Activity Units, Conservation Educa-tion, *Economics, Elementary School Science, Elementary Secondary Education, *Energy, En-ergy Conservation, *Environmental Education, Home Economics, Industrial Arts. *Interdisciplinary Approach, Intermediate Grades, Mathematics Education, Science Education, Secondary School Science, Skill Development, Social Studies, *Teaching Guides

Identifiers— Energy Education
Five units are designed to provide an opportunity for in-depth, technical analysis in the fields of energy, economics, and the environment. In an effort to move upper elementary and secondary students be; and general awareness, activities call for the apguestion of numbers where typically only vague generalities are discussed. Within each chapter, ac-number are written on three levels of skill developtrer: (1) awateness level, where students identify and analyze concerns by qualitative means. (2) transitionel level where they refine and extend these acutes to quantitative analysis, and (3) operational ieie! where they apply these techniques in more come.cx situations. Activities within each unit not convoregress in skill level difficulty but also in grade level rapging from fourth to twelfth grade. Drawing exin many subject areas, these interdisciplinary acrivines toom on five topies human energy, elec-tracty space heating, solar energy, and bioconversion Each unit includes an overview. extentive Teaching notes, worksheets, data sheets, and six or more activities (Anthor/DC)

SE 036 041

Barker, Wells J.

A Gnide to Field Studies for the Coastal Environ-ment Project CAPE Teaching Module. Dare County Beerd of Education, Matteo, N C Spons Agency—Byreau of Elementary and Second-ary Education (DHEW OE), Washington, D C. Pub Date-Jun 81

-100p. Not available in paper copy due to

eopyright restrictions
Pub Type- Guides - Classroom - Teacher (052) EDRS Price - MF01 Plus Postage, PC Not Availa-

ble from EDRS.
Descriptors- Earth Science, Environmental Edu-Schools, Juntor High School Students, "Manne Biology, "Oceanography, "Science Activities, Science Education, "Secondary School Stience

Twenty-five equatal field study investigations. comprising this supplement to a junior high school earth science curriculum, are designed to help stu-dents obtain a fuller understanding of (1) their coastal environment. (2) seme of the problems which confront it (3) the interrelationships between the land and the surrounding poules of water, and (4) the opportunities for individuals to effectively werk toward solutions to environmental problems Each lesson includes key concepts, competency goals, objectives, site description, materials, vocabu-lary, procedure, and source of activity when appropriate Some of the topics covered are currents. waves, tides, dunes, slope, velocity, mapping, satinity, water hardness, soil, light intensity, and evaporation. Appendices provide further information and tests (DC)

ED 211 373 SE 036 055

Button, John W. And Others
Have You Been to the Shore Before? A Marine
Education Infusion Unit on Seasbore and
Aquarium Life. Revised Edition,

Maine Univ., Orono Coll of Education Spons Aßency—N Washington, D.C Pub Date—80 Agency-National Science Foundation,

Grant-NSF-SER-8008177 Note—37p.: For related documents, see SE 036 036-039 and ED 177 013 Produced through the Northern New England Marine Education Proiect. Contains colored print which may not reAvailable from-Northern New England Marine

Education Project, Univ of Maine at Orono, 206

Shibles Hall. Orono, ME 04469 (\$3.00).
Pub Type— Guides • Classroom • Teacher (052)
EDRS Price • MF01/PC03 Plus Possage.

Science, Elementary Secondary Education, Environmental Education, *Field Trips, Instructional Descriptors-Materials, Intermediate Grades, Junior High School Students, Manne Biology, Oceanography. *Science Activities, Science Education, Sec-

ondary School Science Identifiers—*Coastal Zones, *Marine Education Classroom and field activities for fifth- through minth-grade students comprise this teaching guide for the nerthern New England shore. Teacher background information contains an introduction to life at the shore and the animal classification of marine invertebrates. Activities stress two major concepts: the diversity and complex interactions of manner organisms, and (2) the structural, functional, and behavioral adaptations these organisms make to the shore cannonment. Tories of classroom acrimites include saltwater aquanums, seashore life, seaweeds, and a field to a builetin board. Field activities tovoive pre-trip a anning beach profiling, exploring for green crabs, and uniter watching Each activity identifies the objective, field site when appropriate. materials, timing, and procedure. Lists of organizational resources, resource persons, Places to visit, films, and books are provided for the unit Informa-

SE 036 059

tional sheets are also included. (DC)

Buzow. John W and Others
What Adventures Can You Have in Wetlands, Lakes, Ponds, and Puddles? A Marine Education Infusion L'alt on Wet Environments. Resised

Maine Univ. Orono Coll of Education Spons Agency—National Science Foundation. Washington, D C

Pub Date-80 Grant-NSF-SER-8008177

Note—\$7p. For related documents, see \$E 036 0\$5-0\$8, Produced through the Northern New England Marine Education Project Contains col-

England Marine Education Project Contains colored print which may not reproduce well.

Available from—Northern New Ergland Mariae Education Project. Unix of Maria at Orono. 206 Shibles Hall. Orono ME 04469 (53 90).

Pub Type—Guides—Classroom—Teacher (952) EDRS Price—MF01/PC03 Plns Postage.

Descriptors—*Activity Units, Ecology, Elementary

Secondary Education, Environmental Education, *Field Trips, Instructional Materials, *Interdisciplinary Approach Intermediate Grades Linior High School Students, "Marine Bullegy, Ocea-nography, "Science Activities, Science Educa-

tion, *Water Resources Identifiers-Marine Education

Intended for use in middle and junior high schools, these nine elassroom and field activities help students better understand the great diversity of natural communities and the complex interacnons of aquatic organisms. A background information section presents teachers with an overview of wetlands, streams, lakes and ponds, and puddles Classification activities ask students to view films, parti.: Fr'e ,? a food web exètetse, ereate ingoor wet et vituamen silvang jars and a small children's pies-"jet's and study the numan history of sait martres Field trips allow students to investigate a s' cam, so swater marsh, take, and the school-site usicrated Each activity outlines the objectives. In a site when appropriate, materials, timing, and conceaures. Teacher resources include lists of organitations, people, teaching units, places to visit, product, and films, information sheets and student pendouts are also included. (DC)

ED 211 379 SE 036 061 Theiss Achev Steams, Ed. And Others

K.E.E.P. - Kehtucky's Energy Education Program'
Activities for the Classroom, 7-12.
kentucky State Dept of Education, Frankfort;
Kentucky State Dept of Energy, Frankfort,
P.b Date=[\$2]

Note-144p. For related document, see SE 036 000 Funds provided through the Kentuck) Energy Conservation Plan P.5 Type- Guides - Classroom - Teacher (052) EDRS Price - MF01 PC06 Plus Postage.

Descriptors—*Conservation Education, *Energy, *Energy Conservation *Environmental Education tion Gloral Approach, Instructional Materials, 1-1012 ve r mark Approach, Learning Activities, fazienze Acusinies, Science Education, Second. aty Education, Secondary School Science, State

Icentifiers- Energy Education

Seventy-four munidisciplinary activities for graces seven through twelve are contained in this tes sed eartion of energy cancation lessons for Kenfacts students. Section 1 helps students understand energy and the current crisis on studying laws which as one energy riow and using examples of how these and thustrate stable energy utilization divisions as To a TE 34 lous workable mode's to mustrate the Sex 211 to of alternative energy as a significant conthe firm to Kentocks sienergy picture. Section III even a relengy at nome and in the schools in terms of the laws of thermodynamics, characteristics of systems of equilibrium, and the effect of particular kinds of energy on population. It addresses comma ity issues including local sources of power, and local decision making and global issues including the impact of local energy decisions. The last seetion focuses on incividual choices regarding lifesty le selections and their impact on the environment. It inclindes student worksheets. (Author/DC)

Jacobs, Mary Lynn, Ed. Energy Storage, Teachers Guide, Science Activities in Energy.

Oak Ridge Associated Universities, Tenn. Uak Ridge Associated Universities. Tenn.
Spons Agency—Department of Energy, Washington, D.C. Office of Energy Research.
Report No.—DOE: NBB-0003
Pub Date—May \$2
Contract—DE-AC05-76OR00033
Note—40p.: For related documents. See ED 170
132-133 and ED 152 529-532.

132-133 and ED 152 529-532.

Available from—U.S Department of Energy, Technical Information Center. P.O. Box 62, Oak Ridge, TN 37830.

Pub Type— Guides - Classroom - Teacher (052)

EDRS Price - MF01/PC02 Plus Postage.

Descriptors—Activity Units. Electric Batteries, *Elementary School Science. Elementary Secondary Education. *Energy. Environmental Education, Motion, *Physical Sciences. *Science Activities, Science Education. *Secondary School Science. Teaching Guides

Identifiers—*Energy Education, *Energy Storage

Ideanfiers- Energy Education, *Energy Storage Included in this science activities energy package for atudents in grades 4-10 are 12 activities related to energy storage. Each activity is outlined on the front and back of a single sheet and is introduced by a key question. Most of the activities can be completed in the classroom with materials readily available in any community. Among the questions introducing activities are: (i) Will water which is twice as high fall out of a container twice as far? (2) Which has more energy: one teaspoon of alcohol or one teaspoon of alcohol gei? (3) How far can a balloon rocket go on compressed air in ane full bal-loon? (4) Will flashlight battenes that are twice as large last twice as long? (5) How much longer does a C-size battery last when it is turned on and-off compared to continuous use? (6) Will tye flour cause a bigger boom than wheat flour? (7) Will a flywheel that goes twice as fast go twice as long? (8) Will a flywheel made of 3/4 inch plywood spin 3 times longer than one made of 1/4 inch plywood? and (9) Will a spool go twice as far if its rubber band motor has twice as many turns? (JN)

Secondary

88 ED 028 086 SE 006 275 Bernhert, William M.

A Classroom Teaching and Resource Guide at Conservation Education. Nelurcalm. Duncansville. Pa

Spons Agency—Office of Education (DHEW).
Washington, DC Bureau of Elementary and
Secondary Education
Report No—DPSC 67.4120
Pub Date Aug 68

Note-255p

EDRS Price MF.\$1.00 HC.\$12.85

Descriptors-Bibliographies, Biological Sciences, *Conservation Education, Earth Science.
*Ecology, *Instructional Materials. *Secondary
School Science, *Teaching Guides
Identifices—Elementary and Secondary Education
Act of 1965, Title 3

In this teaching guide the natural and social sciences are integrated with an emphasis on conservation and ecology. The guide contains ten teaching units dealing with various physical and biological saspects of the environment. Unit one biological aspects of the environment. Unit one deals with the question of what is conservation. Unit two is conserved with the question of what is a natural resource. Units three through nine deal sespectively with energy, minerals, soil, water, air, plants, and animals. Unit ten is-entitled. "Human Resources" There are more activities and information in the guide than one tendes could use with a given class, leaving the decision as to which material to use with the decision as to which material to use with the reacher. Each unit is self contained and may be used independently of the others. A hibliography of learning materials is included with each unit and a hibliography of free and inexpensive materials appends the guide. This work was prepared under an ESEA Title III contract. (BC)

ED 033 853 SE 007 592

Taber Robert W And Others An Oceanographic Curriculum for High Schools.

Naval Oceanographic Office, Washington, D.C. Pub Date 68

Vote = 35p Available from Superintendent of Documents. Government Printing Office, Washington, D.C. 20102 5098

EDR5 Price ASF-50.25 HC-51.85

Descriptors - Course Content. Earth Science. Marine Biology. Oceanology. Resource Marine Biology, 'Oceanology, Resource Guides, 'Secondary School Science, 'Teaching Guides

Identifiers - National Oceanographic Data Center Contained are outlines for 18 one hour lectures on oceanology. Each outline tists Jupies to be covered, suggestions on which topies should be covered most thoroughly and hooks for further reading and related films. Lecture topics include occanographic surveying and research, geology of the negative physical properties of sea water wases, tides and enfrents chemistry of sea water, marine biology food from the sea air-sea interaction, sea ice, estuaries, man and the sea, the commencial shelf limnology underwater sound, and contervation Appendices list various resources sources of instructional materials, where the source is the source of instructional materials. charts films and bibliographies, organizations and publications which can provide further interma-tion, and a selection of relevant scientific Amer. ican offprints. (EB)

SE 009 343

High School Occanography.

Falmouth Public Schools. Mass Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE). Washingion, p C

Pub Dare Jul 70 Note -- 240p

EDRS Price MF-\$1.00 HC-\$12.10

Descriptors— *Course Content, *Curriculum, Geology, *Imtructional Maserials, Marme Biology, *Oceanology, Physical Sciences, Resource Materials, *Secondary School Science

Identifiers-ESEA Title III

This book is a compilation of a series of papers detigned to aid high school teachers in Organizing a course in oceanography for high school studense it consess of twelve papers. references, covering each of the following (1) introduction to Oceanography, (2) Geology of the Ocean, (3) The Continental Shelver, (4) Physical Properties of Sea Water, (5) Waves and Tides. (6) Oceanie Circulation, (7) Air-Sea Interaction 81 Sea tee. (9) Chemical Oceanography (10) Marine, Biology, (11) The Origin and Develop-ment of Life in the Sea, and (12) Aquaculture. Its Status and Potential The topics suggested are intended to give a balanced coverage to the subject matter of occasiography and provide for a one semester course it is suggested that the top-ies be presented with as much laboratory and field work as possible. This work was prepared under an ESEA Titte III contract (HB)

ED 045 380 SE 009 857

Hershey John T. And Others A Curriculum Activities Guide to Water Pollution and Environmental Studies. Tilion School, N H

Spons Agency-Department of the Interior. Washington, D.C. Federal Water Quality Administration

Pub Date 4 Aug 70

Sole - 641 p Available from...Philip Murphy Tilton School. Tilton N.H. 03276 (Est. pr. \$5.00.58.00) EDRS Price MF-\$2.50 HC Not Available from

Descriptors—Conservation Education, Ecology, *Environmental Education, *Instructional Materials. Natural Resources. Education, Pollution, Secondary Outdoor Education, Pollution, *Secondary School Science, *Teaching Guides, *Water Resources

This activity oriented environmental guide is the result of cooperative efforts of high whoot leachers, students, scientists, and technicians. The activities are divided into four chapters Hydrologic Cycle, Human Activities, Ecological Perspectives, and Social and Political Factors Each activity contains seven parts an introduction; questions regarding the activity. equipment, procedures, results obtained by using the study timitations and problems encountered with the activity, and an annotated bibliography There are seven appendices at the end of the guide. The appendix includes a discussion of water quality parameters, aids to implementation. suggestions regarding limitations and inconveniences, suggestions related to evaluation a bibliography, a water pollution and charron-mental glossam, and comments regarding laboratory and field safety (RH) a

ED 046 715 SE 010 209 Beakley, John C And Others
The Source Book of Mamne Sciences. Beakley. John C Florida State Dept of Education. Tallahassee.

Div of Elementary and Secondary Education Spons Agency—Bureau of Elementary a Secondary Education (DHEW, OE), Washington. D.C. Pub Date 70

Note - 153p.

Available from-Textbooks and Publications. Dept of Education, Knott Bldg, Tallahassee, Fla. 32304 (51 2

EDRS Price MF-S0.65 HC Not Available from EDRS.

EDRS.
Descriptors - *Environmental Education. *Instructional Materials, Laboratory Experiments.
Marine Biology. *Occanology. Resource
Materials. *Science Activities. *Secondary
School Science, Teaching Guides

Identifiers - ESEA Title III

Included is a leachers resource collection of 42 narine science activities for high school students Both the biological and the physical factors of the matter environment are investigated, including the study of tides, local currents, microscope measuring, beaches, turbidity, sea water solids, pH, and salimity, marine bacteriology, microbiological control of the salimity biolumine scence. taxonomy, plankton. sponges and speculation, pelecypod gill, crustaces, sea urchin development, salinity tolerances, and other topics. Most assistics asc

performed in the laboratory, but sample gathering requires access to ocean beaches. Activities are generally presented in the formai-separate gitroductory statements to the teacher and to the student, problem statement, maieriais, procedure, and questions. The source book could serve as a laboratory manual. This work was prepared under an ESEA Title III contract. (PR)

ED 050 940 SE 010 198 Cailin. Richard And Others

Everyman's Problem, An Instructional Latt for Sentor High School Science, Student Manual and Teacher's Manual.

Baltimore County Board of Education, Towson,

Pub Date 70 Note-163p.

Available from Board of Education of Baltimore County, Towson, Md. 21204 EDRS Price MF-\$0.65 HC Not Available from

Descriptors—Area Studies. *Environmental Edu-cation. *Instructional Materials, Interdisciplinacy Approach. Learning Activities. *Manuals.
Natural Resources. Pollution. *Secondary
School Science. *Student Projects
This student manual and accompanying
teachers guide for senior high school science

provide an in-depth study of a community-how it was established and developed it emphasizes the environmental changes which have occurred through the use and management of its natural resources. A series of experiments in numerous areas provides students an opportunity to investigate the causes for change Each experiment indicates the materials needed, the procedure to follow, and asks questions to help interpret the results. The teachers' manual also includes suggestions regarding preparation for the experiment, procedures, experied example to the experiment. ment, procedures, expected results, responses to interpretation questions: assessment lasks, and acceptable sesponses for the tasks. Fully-three objectives, serve to evaluate the degree of understanding achieved by the student. (BL)

ED 053 945 Pfeiffer. Carl H.

The Interaction of Man with His Environment.
Science III and IIIB.
Monona Grove High School Monona. Wis.

Wisconsin State Dept of Education, Madison. Spons Agency—Office of Education (DHEW). Washington, D.C. Bureau of Research Bureau No.- 3R.5 0646

Note = 320p . Due to copyright restrictions, some pages are not included EDRS Price MF-\$0.65 HC-\$13.16

Pub Date 68

Descriptors - *Ecology, Emisonment. *Environ-mental Education, *Fused Currentum, *Instructional Materials *Integrated Curriculum. Interdisciplinary Approach. Science Activities, Secondary School Science, Workbooks The two student notebooks in this set provide

the basic course outline and assignments for the third year of a four year senior high school unified science program. This course is the less technical of the two third-year courses offered in the program. The first of the three major units in this course. Structure and Dynamics of the Bio-sphere, is composed of three sub-units: the nature and scope of ecological science, the ecosystem. and man in the biosphere. The second unit, Population Structure and Dynamics, contains four sub-units: Structure and organization, the functioning of populations, population genetics, and human populations. The third unit, Problems of Coesistence, contains these sub-units: problems of coexistence with the physical controment. with other organisms, and within society. The final sub-unit of the course is Science and the Evolving Society. The notebook materials for each of the sub-units include: a list of required and recommended readings from various other books, questions for consideration in introducing a lesson, a brief background reading, a basic outline of the lectures with space provided within the outtine for notes, laboratory activities and investigations, laboratory problem reports and

other kinds of assignments (discussion questions, fillings, problems), and summary statements and review questions. Numerous diagrams and illustrations are included (PR)

ED 053 946 SE 012 152

Pfeiffer, Carl H. Homeostatic Systems-Mechanisms for Survival. Science (V.

Monona Grove High School, Monona, Ws; Wisconsin State Dept of Education, Madison Spons Agency—Office of Education (DHEW), Washington, D.C. Bureau of Research Bureau No—BR.5-0646

Pub Date 68 Note--362p , Due to copyright restrictions, some pages are not included EDRS Price MF-\$0.65 HC-\$13.16

Descriptors - Biology. Chemistry. *Fused Carritulum. "In Culturalum. *Instructional Materials, *Integrated *Interdisciplinary

Cumentum. "Interdisciplinary Approach. Physics, "Science Activities. Seventific Principles, Secondary School Science. The two student notebooks in this set provide the basic optime and assignments for the fourth and last year of a semor high school unified science program which builds on the technical third was could be seen to the school unified science program which builds on the technical series and the second series and the series are series as the series are series are series as the series are series are series as the series are series are series as third year course. Science IIIA (see SE 012 149) An introductory section considers the problems of survival inherent in livingsystems, maner-energy interactions relating to living systems, life and the laws of thermodynamics, and homeostasts The first unit, Matter-Energy Relationships of the Electron, focuses on interactions involving circular movement, translational movement, and movements between elective and magneue fields The second unit, Mechanisms for Matter-Energy Interactions in Living Organisms considers those mechanisms associated with the capture, storage and utilization of energy and matter transport regulation and exchange of matter, and other functions in living organisms. The materials for each of the sub-units include a list of required and recommended readings from various books, questions for consideration in introducing a lesson, a brief background reading, a basic outtine of the lectures with space provided within the outline for notes, laboratory activities and investigations, laboratory problem reports and other kirds of assignments (discussion questions, fill-ins, problems), and summary statements and review questions. Numerous diagrams and illustrations are included (PR)

ED 0\$5 896 Nuclear Power and the Environment, Understand. ing the Atom Series.

Atomic Energy Commission, Oak Ridge, Tenn. Div of Technical Information

Peo Date 69 Note-36p

Available from-USAEC, P O Box 62, Oak Ridge, Tennessee 37830 (Free) EDRS Price MF-50.65 HC-\$3.29

Descriptors - Electricity, *Environment, *Environmental Education, Instituctional Materials. Natural Resources, *Pollution, *Radiation, Secondary School Science. Thermal Environ-

This booklet is one of the booklets in the "Understanding the Arom Sches" published by the U. Atomic Energy Commission for high school seience teachers and their students. Discussion concentrates on the radiological and thermal aspects of the environmental effects of nuclear power plants, on the procedures followed by the Atomic Energy Commission (AEC) to mini mize the impact of nuclear plants on man and his environment, and on the research conducted by the AEC and others to further expand our knowledge Numerous photographs and diagrams are unliked and a list of suggested references is included (Author/PR)

ED 0S5 833

SE 012 379

Hon. Will The Regional Martne Science Project of the Cartreet County, North Carofina, Public Schools, Experiments in the Cse of held Ecology as an Approach to Understanding Coastal Environ. micous.

Carteret County Public Schools, Beaufort, N.C. Spons Agency-Bureau of Elementary a Secondary Education (DHEW/OE), Washing-

ton, D.C Pub Date 69

Note-36p EDRS Price MF.S0.65 HC.\$3.29

Descriptors-Curneulum Development, Ecology. Descriptors—Lucraculum Development, Ecology,
Environmental Education, "Marine Biology,
"Program Descriptions, "Projects, Resource
Maicrals, "Secondary School Science
Identifiers—ESEA Title III

The development of the Regional Manne Science Project in Carterer County. North Caronna, is portrayed in this booklet Established with Elementary and Secondary Education Act (ESEA) Title Ill funds in 1966, the project has evolved from one high school course in maxine ecology to numerous courses and activities at all levels, primary through college. Oriented to field beology as an approach to understanding coastal environments, the project makes extensive use of field trips, setting up discovery-lype situations with complex problems for group investigation. Phases of the program are described in eight categories: curnculum development and instruction, research on field trip rechniques, inservice iraining, summer science school, manne science library and audio-vitual aids, publications, regional coordination of marine science education, and planning for an exhibit, laboratory and field inp center. An array of pictures depict many of the student activities in addition, staff photos and biographies are included. This work was prepared under an ESEA Title III contract. (BL)

ED 059 901

SE 013 405

Flint, William The Project Physics Course (Modularized) for

Grades 10.12. Western Washington State Cell, Beilingram Huxley Coll of Environmental Studies

Spons Agency-National Center for Educational Research and Development (DHEW OE) Washington, D.C. Bureau No-BR-0-0348

Pub Date Oct 71 Grant-OEG-0-70-5039

Note -51p

EDRS Price AF-\$0.65 HC-\$3.29

Descriptors... Course Content. Course Organiza. tion. "Curriculum Guides. "Environmental Education, *Integrated Curriculum, *Physics, Science Units, Secondary School Science, Cost Plan

Identifiers-Harvard Project Physics

This report was produced by the Sedro-Wordsiey Project which has the goal of infusing environmental education into the whole curreculum of a school district included are assumptions which the author believes are appropriate to envitonmental education; a telating of these assumptions to some topies of chemistry and physics, an outline of specific accomplishments to date, as well as projected future activities definitions and rationalizations of Project Physics and modularization, a rationalization of environment objectives within the modules, and finally, a complete set of specific module objectives. Seventeen "mods" are described with specific contents desembed. Among the mods are Motion, Energy, E-M. Field, Quanta, and Radioactivals. Several of the mods are developed in sequential order with prerequisites while others require only 'Tool," the beginning mod which Jeveloos the mathematics necessary for all subsequent mods (Author/TS)

ED 061 060 SE 013 380 Godfrey, Paul J Hon. Will

Dune Detective, Using Ecological Studies to Recon. struct Events Which Shaped a Barrier Island. Carteret County Public Schools, Beaufort, N.C. Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE), Washing-

ton. D.C. Pub Date 70 Note -34pt

EDRS Price MF.\$0.65 HC.\$3.29

Descriptors—*Earth Science, Ecology, Environmental Education, *Instructional Materials, Learning Activities, *Oceanology, *Secondary School Science, *Student Research, Water Resources

Identifiers—ESEA Title III
This publication is designed for use as part of a curriculum series developed by the Regional

Marine Science Project. Students in grades 11 and 12 are exposed to research methods through a series of field excresses guiding threstigators in reconstructing the events which have shaped the natural communities of a barrier beach. Background information, field equipment, field assignments, procedures, result and discussion Ideas are provided for six exercises; dune survey. washover .- physical aspects, washover -- ecological succession, martime forest profile, salt marsh survey-mapping, and salt marsh survey-cleva-tions, Numerous line drawings, diagragis, charts, and photos supplement the narrative material. This work was prepared under an ESEA Title III contract. (BL)

ED 061 061

Taylor, Beth The Field Approach to Coastal Ecology, Fall Unit. Carteret County Public Schools, Beautori, N.C. Spons Agency—Buteau of Elementary as Secondary Education (DHEW/OE), Washing. ton. D.C.

Pub Date Sep 70 .

-41p.

EDRS Price MF-S0.65 HC-\$3.29
Descriptors—Earth Science. *Ecology, Environmental Education, *Grade 10, *Instructional Materials. *Oceanology, Reading Materials. Secondary School Science. *Textbooks fdentifiers-ESEA Title III

This publication is designed for use as part of a turriculum series developed by the Regional Maxine Science Project Coastal environments are utilized to demonstrate basic principles of ecology to tenth grade students with emphasis placed on salt masshes in this first unit for the fall season. (Unit 2 is for spring season.) Material presented in the informative text covers the scope of ecology, coastal and inland ecosystems, factors limiting survival and distribution, chemical excles, photosynthesis, respiration, and food cycles. Coastal ecology lab exercises acquaint the student with a variety of organisms commonly found In the tidal salt marsh and give practice in col-lecting, analyzing, and presenting data in a scien-tific and orderly manner. Numerous line drawings, diagrams, and data recording sheets supplement the narrange material. This work was prepared under an ESEA Title III contract (BL)

FD 662 176 Authorized Course of Instruction for the Quin-mester Program. Science: Pollution: Environ. mental Crises; Basic Fundamentals of Ecology; and Does It Have to be a Dirty World.

Dade County Public Schools, Miami, Fla. Pub Date 71 Note - 83p.

EDRS Price MF-\$0.65 HC-\$3.29

EDRS Price MF-\$0.65 HC-\$3.29
Descriptors—Bibliographies. Ecology. "Environmental Education, Films. "Instruction, Laboratory Procedures. "Objectives, Pollution, Secondary School Science. "Teaching Guides, Units of Study (Subject Fields)
Identifiers—"Quinmester Program

Performance of Study Study (Subject Fields)

Performance objectives are stated for each of the four secondary school units included in this package of instructional guides prepared for the Dade County Florida Ounmester Program. All four units are concerned with aspects of environmental concern. "Pollution," "Does It Illave to be a Dirty World?," "Environmental Crises," and "... a Ditty Workin. Environmental Crises, and a Fundamentals of Ecology "Lists of state-adopted and other texts, of films and filmstrips available in Dade County, and of possible speakers from the county are included. A course outline sum. marizing the content of the units, numerous sug. gestions for experiments and activities in laboratory and field, firsts of possible individual projects and. In some cases, suggested discussion questions are included A master sheet showing the relationship of each suggested activity to the objectives of the package is appended to each booklet (AL)

ED 062 180 SE 013 643 McCarthy, Nancy D Silver, Barbara A Authorized Course of Instruction for the Quin-mester Program, Sciences Man and Nature, Dade County Public Schools, Miami, Fla Pub Date 71 Note ...27p EDRS Price MF-\$0.65 HC-\$3.29

Descriptors-Biology, 'Ecology, 'Environmen-

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tal Education, Evolution, Instruction, *Objectives, Secondary School Science, Taxonomy, Teaching Guides. Units of Study (Subject

Identifiers-Quinmester Progtam

Performance objectives are stated for this secondary school unit prepared, for the Dade County Florida Quinmester Program The unit examines scientific method, biological classification, evolution, population ecology, and pays attention to problems of the human environment The booklet lists related state-adopted textbooks. cites descriptions of teaching and laboratory ac-tivities in these texts, lists films available from the county audio-visual library, recommends 39 books useful for reference, suggests possible student projects and topics for written reports, and quesuons for class discussion. A chart relating the performance objectives to the sug-gested acceptes is appended (AL)

SE 015 000

ox. David C How to Investigate the Environment in the City: Alr and Water.

National Science Teachers Association, Washington, DC

Pub Date 72 Note-12p

Available from...National Science Teachers Association, 1201 16th \$1. NW, Washington, D.C. 20036 (Stock No. 471-14630, \$0.50) EDRS Price MF-S0.6S HC Not Available from

EDRS.

Descriptors- *Air Pollution Control, Engronmental Education, Experiments, Instructional Materials. Investigations, Learning Activities, "Student Projects, "Study Guides, "Urban Environment, "Water Pollution Control

Two significant aspects of the urban environment, air and water are locused upon in this instructional aid pamphlet. For each component, the fange of possible studies is surveyed, together with the states of the situation and associated problems Sample experiments are suggested and their test procedures outlined. Where special equipment, inespensive test kits, or chemicals are required or would enhance the investigation, they are described and illustrated. A source list of organizations, periodicals, and publications is also supplied (BL)

ED 971 264 EC 050 872 Me and My Environment. Unit I: Exploring My Environmens.

Biological Sciences Curriculum Study, Boulder,

Spons Agency—Bureau of Education for the Handicapped (DHEW/OE), Washington, D.C. Pub.Date 72

-327p EDRS Price MF-\$0.65 HC-\$13.16

Descriptors - Biology, *Class Activities, *Currieu-lum Guides, *Educable Mentally Handicapped. *Environmental Influences, *Exceptional Child Education, Guidelines, Inquity Training, In-structional Materials, Lesson Plans, Mentally Problem Solving, Student Handicapped.

presented is the experimental edition of Unit I Exploring My Environment, which consists of 29 life science curriculum actionics intended for the 18-m-15-year-old educable mentally related child the correction golds to being used in the final field test prior to resiston. Stresself throughout the program are ecological thomas. inquiry skills, problem salsing skills ensironmen

inquiry skills, problem solving skills environmental skiments, and applicational behaviors and at titudes. Soven to 12 activities for each of the three core study areas within that lare given of which the following are examples making a sit smilling around, forming sategories, and reading a thermometer. Activities are ingalized into materials, teaching strategies, and anticipated student behaviors. The three softs are sensing the environment, investigating the environment and landmarks in the customment. In estimation, the evolution of the environment of the environment of the environments. cal theme stressed is the interrelationships of an strammental components. Inquity skills seen to be developed are observing and identitying. Problem salving skills emphasized are experimening and knowing what the problem is and what to do about it instromerial elements considered arg space and shelter. Behavioral objectives include the decelopment in the student of a sense of selfidentity and an attitude of inquiry. (See EC 050 871, and EC 050 873 through EC 050 875 for related curriculum guides) (DB)

ED 071 265 EC 050 873 Ms and My Encironment. Unit II: Me as a labeled.

Biological Sciences Curriculum Study, Boulder,

Spons Agency—Bureau of Education for the Handicapped (DHEW/OE1, Washington, D C Pub Date 72 Note = 274p

EDRS Price MF-\$0.65 HC-\$9.87

Descriptors—Biology, *Class Actsystics *Curriculum Guides, *Educable Mentally Handicapped, *Environmental Influences, *Exceptional Child Education, Guidelines, Inquiry Training! In-structional Materials, Lesson Plans, Mentally Hundicapped. Problem Salving. Behavior

Prosented is the experimental edition of Unit II Me as a Habitat, which consists of 19 life science Me as a Habitat, which consists of 19 life science curriculum activities intended for the 13-to-15-car-told educable mentally retarded child. The curriculum guide is being used in the final field test prior to textision. Stressed throughout the program are ecological themes, inquiry skills, problem solving skills, environmental "elements, and applicational behaviors and attitudes. Five to eight activities for each of the three core study areas within Unit II are given of which the following are examples seeing is believing, drinking microbes, scienceal disease in action, smoking in action, and the use and misses of dugs. Activiaction, and the use and misuse of drugs. Activi-ties are afganized into materials, teaching strate-gies, and anticipated student behaviors. The thrue cures study microbes, disease, and environmental choices. The ecological theme stressed is diversity and pattern Inquiry skills seen to be developed are associating and describing Problem solving skills emphasized are recording data and discussion and treatment of group data. Environmental clements considered are living things. A desired behavior officione is skill in communication about the child's uncironment. (For related correculum guides see EC 050 871; EC 050 872, EC 050 874 and EC 050 875) (DB)

ED 071 266 EC 050 874 Me and My Environment, Unit III: Energy Relationships in My Environment, Biological Sciences Curriculum Study, Boulder.

Spons Agency—Bureau of Education for the Handicupped (DHEW/OE), Washington, D.C., Pub Date 72
Note=327p

£DRS Price MF-\$0.65 HC-\$13.16

Descriptors—Biology, *Class Activities, *Curricu-lum Guides, *Educable Mentally Handicapped, *Environmental Influences a Exceptional Child Education, Guidelines, Inquiry Training, In-Education Guidelines, Inquity Training, In-structional Materials, Lesson Plans, Mentally Handicapped, Problem Salving, Rehasior

Presented is the experimental edition of Unit Energy Relationships in My Encironment. which consists of 25 life science extriculum activities intended for the 13-to-15-year old educable mentally retarded child. The curriculum guide is hoing used in the final field test prior to recision. Stressed throughout the program are ecologteal themes, inquesy skills, problem solving skills, ensittinmental elements, and applicational behaviors and attitudes. Five to eight activities or each of the foor cure study areas within Unit III are given of which the following are examples growing plants, themical energy, measuring energy values, the finid shain game, and the green machine. Accientes are organized into materiale, teaching strategies, and anticipated student behaviors. The toor cores similar an introduction to energy, energy in tood, energy flow through fixed chaose and webs, and tood making in plants. The ecological thente developed is the complementarity of organisms and ensitemment Inquiry skills seen to be developed are comparing and translating Two problem solving skills emphasized are explaining and defending The environmental element considered is energy A desired behavior nursume is recognition of the child's dependence on his highigical environment (For related curriculum guides see IC 050 871 through FC 050 873 and FC 050 875 1 (DB)

ED 071 267 EC 050 875 Me and My Environment, Unit 15: Transfer and Cycling of Materials in My Environment.

Biological Sciences Corriculum Study, Boulder

Spons Agency—Barcau of Education for the Handicapped (DHFW OF), Washington, D C Pub Date 72 Note—574p EDRS Price MF-\$0.65 HC\\$9.87

Descriptors... Biology, *Chas Activities *Curneu-lum Guides, *Educable Mentalk Handicapped Environmental Influences *Exceptional Child Education, Guidelines, Inquity Training In-structional Materials, Lesson Plans Mentally Problem Salimg. Student Handicapped Rehause

Presented is the experimental edition of Unit IV Transfer and Cycling of Materials in My Environment, which consists of 29 life science curriculum activities intended for the 13-to-15-yearold educable mentally retarded child. The cor-riculum guide is being used in the final field test prior to revision Stressed throughout the program are ecological themes inquiry skalls problem solving skalls, environmental elements, and applicational behaviors and attitudes. Eight and applicational benefits and attitudes eight to 12 activities for each of the three core study areas within Unit IV are given of which the following are examples plant and animal hunt, making a pill bug habitat the hamburger lab, garbage, and planting in compost. Activities are organized into materials deaching strategies, and anticipated student behaviors. The three cores consider energy and material transfer decompusers in the encironment and garbage and the encironment respectively. The ecological theme developed is the cyclic nature of processes, the inquiry skill seen to be descloped is guessing and applying. Two problem solving skills emphasized are identifying controls and drawing conclusions The environmental element considered is air. A destred behavior outcome is skill in personal body care 1For related curriculum guides see EC 050 871 through EC 050 874) (DB)

ED 079 100

Water Quality Control, Curriculum Guide, North Carolina State Dept of Fusive instruction, Raleigh, Washington City Board of Education,

Spons Agency—Bureau of Elementary and Secondary Education (DHEW (IE), Washington. D C Pub Date [72]

Note = 209p EDRS Price ME.S0.65 HC-S9 87

escriptors-Currigulum Guides 'I as ironmental Education, Instructional Visionals, "Learning, Activities, Natural Resources O., lity Control, "Secondary Grades, "Leaching couldes, Units of Study (Subject Fields), "Water Resources Identifiers—ESLA Litle [I]

Activities which study how water is used, contaminated, and treated or punited are presented in this curriculum guide, collaurating in the in vestigation of a local water due to problem. Designed as a 12 week mini course for students Designed as a 12 week mini course for students in grades eight and mine, the guide lift present a review of the contont observes, many concepts, and sources for student reference materials Major tipies for onto of study are titled Mater, a Renewable Resource (Hydrolotte Cycle), is Water a Renewable Resource? Scientific Analysis of Local Water Quality, and A Local Study of Mater. Water Quality Each unit is composed of a series of pre-, major, and post-activities beginning with a general overnow indicating title of the unit, purpose or objective, abstract of content, and unit schedule of activities including time allot-ments Individual activities enumerate, where anpropriate, background information, maker points to emphasize, questions or quizzes, teaching procedures materials required, and supplemental activities or information. A variets of media and processes is suggested to allow for flexibility. This work was prepared under a contract for an ESFA Title III project. Environmental Science Study Cornection (BL)

SE 016 645 ED 086 482 Handbook of Techniques and Guides for the Study of the San Francisco Bay-t)elta-Fstuary Comples, Part 1. Monitoring Techniques for the Measurement of Physico-Chemical and Biological Paramiters.

Alameda County School Dept, Hayward, Calif, Contra Costa County Dept of Education, Pleasont Hill, Calif. Pub Date Feb 71

Note-120p. EDRS Prier MF-\$0.65 HC-\$6.58

Descriptors—Biological Influences, Ecological Factors, Environmental Criteria, "Environmental Education, Environmental Research, ides, "Instructional Materials, "Marine tal Education, Environmental Materials, "Marine Biology, Natural Sciences, Quality Control, Resource Materials, Water Pollution Control Identifiers—"California, Project MER, San Francisco Bay

Project MER (Marine Ecology Research) is aimed at improving environmental education in the San Francisco Bay Area schools. As part of meeting this goal, it is hoped that students and teachers can see the results of their efforts being put to practical use. This guide is the first of a se-ries produced to help the students and teachers gather data concerning the San Francisco Bay-Delta-Estuary Complex and to organize these data in a form that could be a contribution to the Internature of science and serve as the groundwork upon which knowledgeable decisions about the environment could be based. Presented in this guide are techniques and procedures for measur. ing and evaluating the ecology of aquatic en-vironment of the Bay Chapter I deals with how physical and chemical factors affect the distribution of aquatic life. General information on the effect of a particular factor precedes a technical presentation on how to measure of evaluate that factor. The second chapter discusses techniques for studying the plankton population and the third discusses techniques for studying bacterial populations Field data sheets for recording data, are included in the appendices Related documents are SE 016 646-SE 016 650 (JP)

ED 086 483

SE 016 646

Helrich. Jane Handbook of Techniques and Guides for the Study of the San Francisco Bay-Delta-Estuary Complex. Part 2. Key to the Phytoplankton Phyla and Genera.

Alameda County School Dept. Hayward, Calif., Contra Costa County Dept of Education, Picasant Hill, Calif Pub Date Feb 71

Note-27p.

EDRS Price MF-\$0.65 HC-\$3.29

Pescriptors—Biological Influences, Ecological Factors, "Environmental Education, Environmental Research, "Guides, "Instructional Materials, "Matine Biology, Natural Sciences, Resource Materials
Identifiers—*California, Phytoplankton, Project

MER, San Francisco Bay
Project MER (Marine Ecology Research) is
aimed at improving environmental education in the San Francisco Bay Area schools. This document is the second of a series of guides designed to help students and teachers gather data con-cerning the San Francisco Bay-Delta-Estuary Complex and to organize these data to make a contribution to the literature of science and to serve as the groundwork upon which knowledgeable decisions about the environment could be based Presented in this guide is a key for identifying the phytoplankton phyla and genera organisms in the Bay Physical descriptions of the organisms are accompanied by illustrations Related documents are SE 016 645 and SE 016 647...SE 016 650 (\$P)

ED 086 484

SE 016 647

Shettler. Jame Handbook of Techniques and Guides for the Study of the San Francisco Bay-Drita-Estuary Compiex. Part 3. Key in the invertebrates.

Alameda County School Dept, Hayward, Calif. Contra Costa County Dept of Education. Pleasant Hill, Calif Pub Date Feb 71

F.DRS Price MF.\$0.6S UC.\$3.29

Descriptors...Biological Influences, Ecological Fectors, *I.nvfronmental Education, Environ. mental Research, "Guides, Instructional Materials, "Marine Biology, Natural Sciences, Resource Materials

Identifiers - "California. Invertebrates. Project

MER. San Francisco Bay

MER. San Francisco Bay

Project MER (Marine Ecology Research) is

aimed at improving environmental education in
the San Francisco Bay Area schools. As part of
meeting this goal, it is hoped that students and teachers can see the results of their efforts being put to practical use. This guide is the third of a series produced to help students and teachers gather data concerning the San Francisco Bay-Delta-Estuary Comples and to organize these data to make a contribution to the literature of science and to serve as the groundwork upon which knowledgeable decisions about the environment could be based. Presented in this guide is a key to aid in identifying the more common invertebrate and vertebrate forms found in the Bay area. Physical descriptions are accompanied by illustrations. Related documents are SE 016 645. SE 016 646 and SE 016 648 through SE 016 650 (JP)

ED 086 485

SE 016 648

Handbook of Techniques and Guides for the Study of the San Francisco Bay-Della-Estuary Complex. Part 4. Kry to the Coastal Marine Fishes of California.

Alameda County School Dept., Hayward, Calif, Contra Costa County Dept. of Education, Pleasant Hill, Calif

Pub Date Feb 71 Note-29p.

EDRS Price MF-\$0.68 HC-\$3.29

Descriptors—Biological Influences, Ecological Factors, "Environmental Education, Environmental Research, "Güides, "Instructional Materials, "Marine Biology, Natural Sciences, Resource Materials
Identifiers-*California. Fishes, Project MER.

San Francisco Bay Project MER (Marine Ecology Research) is aimed at improving environmental education in the San Francisco Bay Area schools. A\$ part of meeting this goal, it is hoped that students and teachers can see the results of their efforts being put to practical use. This guide is the fourth of a series which was produced to help students and teachers gather data concerning the San Francisco Bay-Delta-Estuary Complex and to urganize these data to make a contribution to the literature of seience and setve as the groundwork upon which knowledgeable decisions about the environment could be based. Presented in this guide is a key to aid in identifying both the salt- and fresh-water fish that inhabit the Ba) Physical descriptions are accompanied by illustrations. Related documents are SE 016 645.-SE 016 647 and SE 016 649--SE 416 650 (JP)

SE 016 649

Kimsey, J B Fish, Leonard O Handbook of Techniques and Guides for the Study of the San Francisco Bay-Delta-Estuary Com-plex. Part S. Krys to the Freshwater and Anadromous Fishes of California.

Alameda County Schoul Dept. Hayward. Calif., Contra Costa County Dept of Education, Pleasant Hill, Calif.

Pub Date Oct 60

Note-29p

Journal Cit-California Fish and Game, v46 n4 Oct 60 (Reprint)

EDRS Price MF-\$0.6\$ HC-\$3.29

Descriptors-Ecological Factors. *Environmental Education, Environmental Research, *Guides, *Instructional Materials, *Marine Biology, Natural Sciences, Resource Materials Identifiers-- *California. Fishes, Project MER.

San Francisco Bay

This key to freshweter and anadromous fishes of California is included as the fifth of a series of uides being produced by Project MER (Marine guides being produced by Project Mest Consume Ecology Research). This project is part of the effort to improve environmental education in the San Francisco Bay Area schools by gathering and organizing data on the ecological character of the San Francisco Bay-Drita-Estuary Complex Re-lated documents are SE 016 645--SE 016 648 and SE 016 650 (JP)

ED 086 487

SE 016 650

Sikora, Bob Handbook of Techniques and Guides for the Study of the San Francisco Bay-Delfa-Estuary Complex, Part 6. Key to the Common Fishes of San . Francisco Bay.

Alameda County School Dept. Hayward. Calif. Contra Costa County Dept of Education. Pleasant Hill. Calif Pub Date Jul 73

Note -13p . Page 6 not included EDRS Price MF-\$0.6S HC-\$3.29

EDRS Price Mr-30-00 mc-33-27
Descriptors—Biological Influences. Ecological Factors, "Environmental Education. Environmental! Research. "Guides, "Instructional Materials. "Marine Biology, Natural Sciences. Resource Materials
Identifiers—*California, Fishes, Project MER.

San Francisco Bay Project MER (Marine Ecology Research) is aimed at improving environmental education in the San Francisco Bay Arca schools As part of meeting this goal, it is hoped that students and teachers can see the results of their efforts being put to practical use. This guide is the sixth of a seges produced to help students and teachers gather data concerning the San Francisco Bay-Delta-Estuary Comples and to organize these data to make a contribution to the literature of science, serving as the groundwork upon which knowledgeable decisions about the environment could be based. Presented in this guide is a key to aid in identifying the common fish of the Bay Physical descriptions and illustrations of the fish are also given. Related documents are SE 016 645.-SE 016 649. (JP)

ED 086 522

SE 017 122

Climet. Robert R. Human Ecology, Science (Experimental): \$365.60. Dade County Public Schools, Miami. Fla Pub Oate 72

Note-16p , An Adthorized Course of Instruction for the Outnmester Program
EDRS Price NIF-\$0.65 HC-\$3.29

Descriptors-Behavioral Objectives. Behavior Change, Biology, Curriculum Guides, Ecology, *Environmental Education, Human Development, a* Instructional Materials, *Secondary

School Science Identifiers—"Quinmester Program

This course involves the scientific study of the close relationship between evolving human behavior and changing environmental conditions No state-adopted test is recommended for the course, but the use of several paperbacks, as well recommended Supplementary texts are sug-gested Eight performance objectives are listed. The course outline includes five major concepts (1) Human Behavior in Response to the Environ-memit (2) Comparison of Behaviors in Lower Animals and Man. (3) Cultural Developments and Their Effects on the Behavior of Man. (4) Behavioral Conflicts of Man in Modern Society, and (5) Projecting Future Society and the Future Behavior of Man Demonstrations by resource people are suggested' Student-performed activithis suggested include reports, projects, films, and film strips. An extensive list of discussion questions is presented, as is a master sheet coordinating the entire entriculum. (Author/EB)

Awkerman, Gary L.
Animais of the Sea: Coelentriates. Prolozos, and Spongra.

Charleston County School District, North Charleston, S C

Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE). Washing-Ion D.C

Pub Date [73] Note-- 82p

EDRS Pike MF-\$0.65 HC-\$3.29

Descriptors-Biology, Curriculum, Environmental Descriptors—poology, Curriculum, Environmental Education, "Instructional Materials, "Marine Biology, "Oceanology, "Secondary School Seience, Study Guides, "Zoology Identifiers... Elementary Secondary Education Act

These three units are designed for use with standard science curricula. These publications, relating to animals of the sea are Protoroa. Sponges, and Coelenturates included are teacher guides, student activities, and demonstrations designed to impart overse whence understanding to high school students. Objectives to be attained



from the unit on Protozoans include (1) identification of radiolarians foraminiferans and tintinnida; (2) descriptions of life processes in these protozoans, and (3) identification of oceanic dediment produced by Tailotarians and foraminiferans After studying the unit on Sponges, students should be able to (1) list the classes of sponges; (2) describe the life functions and habits, and (3) describe sponge reproduction and its importance to sponge incustry. At the end of the unit on Coelenterates, students should be able to-(1) list the classes, (2) describe focomonon and feeding habits, and (3) describe relationship between the reproductive stages representing alternation of generation phenomena. This work was prepared under an ESEA Title III contract. (Author/EB) .

ED 086,583

SE 017 225

SE 017 226

Awkelman, Gary L

Aspects of Marine Ecology, Chatleston County School District, North Char-- leston, S C

Spons Agency-Bureau of Elementary and Secondary Education (DHEW/OE); Washington. D.C.

Pub Date [73]

EDRS Price 81F, \$0.65 HC-\$3.29

Descriptors—Biology, Curriculum, *Ecology, En-vironmental Education, *Instructional Materials, "Marine Biology, Oceanology, "Secondary School Science, "Study Guides

Identifiers - Elementary Secondary Education Act

Title-III, ESEA Title-III
This publication is designed for use in standard science curricula to develop oceanologic manifestations of certain science topies Included are: teacher guides, student activities, and demonstrations to impart ocean science understanuipge specifically, aspects of marine ecology, to high school students. The course objectives include the ability of students to (1) don'the the funda-mental source of energy for the marine ecosystem. (2) describe the functions of produeers; consumers, and decomposers in the ecosystem. (3) identify typical food webs and food chains. (4) explain iclationships between local nutrient depletion and stratification of ocean effeulation, and (5) discuss the effects ofpollution on the maring ecosystem. This work was prepared under an ESEA Fitte III contract This week The reference page will not reproduce clearly (Author/EB)

ED 086 554 Awkerman, Gary L.

Estuaries.

Charleston County School District. North Charleston, S C

point Agency Buteau of Elementary and Secondary Education (DHEW-QE), Washing ton. D.C.

EDRS Price MF \$0.65 HC \$3.29g

Descriptors - Biology, Curreculum, "Environmental Education, "Instructional Materials. tal Education. Instructional Marinals, Marine Biology, Natural Sciences Oceanology, Secondary School Systems Study Guides, Identifiers, Elementary, Secondary Education Act Title III, ESEA Title (III)

This publication is designed for use in standard science eurricula to develop oceanologic mamfes-tations of certain science, topics. Included are teacher guides, student activities, and demonstra-tions designed to impart ocean understanding to high school students. When the student has completed this unit, he should be able to (1) define an estuary, (2) describe environmental fluctuations of an estuary, (3) describe five types of estuaries, (4) list biological characteristics of estuaries, and (5) describe the most important function of a erab's shell. Two other units are ineluded in this publication. Estuaries and Man, and Destruction and Restoration. The five major areas in which estuaries are important to main tharborn, sites of industry, fishing grounds, sea farms, and recreational centers have included in this unit on marine biology. Thus work was prepared under an ESEA Title III contract (Author/EB)

ED 086 55s Ankerman, Garv I., SÉ 017 227

Marine Biological Field Techniques Charleston County School District, North Chare leston, S.C.

Spons Agency - Bureau, of Elementary, and Secondary Education (DHEW/OE), Wathington, D.C

Pub Date [73]

EDRS Price MF-\$0.65 HC-\$3.29

Descriptors—Biology, Curinculum, Environmental-Education, *Instructional Materials, *Marine Biology, Natural Sciences, *Oceanology, Resource Materials, *Secondary School Resource Materials.' Secondary School Science. Study Ouiget.

Identifiers—Elemental Secondary Education Act
Tale III. ESEA Title III

This publiculton is designed for use in a standard scienge curricula to develop oceanologie manifestations of certain science topics included are teacher guides, student activities; and demon-strations, designed to impair ocean science understanding to high school students at could be a useful instructional tool for any high school student'field trip experience. Suggestions for wearorn that the appendict suggestions for weating apparel and necessary equipment are listed.

Objectives to be gained, by the students include

(1) to learn how to use the various nels for capturing marine life; (2) to identify the common organsms of Folly Beach, (3) to identify major beach zones, and (4) to define satinity and describe its principal effects on organisms. The publication includes pictorial representations of purpuscation includes pictorial representations of the various organisms in marinescollections that can be obtained, equipment to be used, and dia-gramatic sketches of the field trip sites. This work of was prepared under an ESEA Title III contract. (Author EB)

ED 086:556

SE 017-228

Aukerman, Gary L. Sea Changes, Topics in Marine Earth Science. Charleston County School District North Char-

leston, S C Spons Agency Bureau of Elementary and Secondary Education (DHEW/QE), Washing-ton D C

Pub Date [73]

Note = 27p 3 EDRS Price MF-\$0.65 HC-\$3.29

EDRS Price 18-50.65 HC-53.29

Descriptors—Biology, Earth Science, "Bright memal Education, "Figuractional, Materials, Maline Biology, Natural Sciences, "Oceanology, "Sevondary School Science, Study Gutdes Identifiers—Elementary Segondary Education Act Title III. ESEA Title III.

This publication is deligned for use in standard science currisful to develop oceanology manifestations of certain science topics. Included are

tations of certain science topies lheluded are teacher guides, studentbachrities, and demonstrateacher guides, studenyactivities, and demonstra-flors designed to impart ocean's science un-derstanding to high school students. The principally theme of Changes untiffs sea is presented in this particular publication. Topics discussed include (1) Continental Drift. (2) Shoreling Changes, 13) Sea Level Changes, 14) Beashes, 15) Nearthfire Currents and Man Made Struetures, and, (6) extremes and man-stade Structures, and, 16) Estuaries. This particular publication as content oriented rather than activity oriented. This work was prepared under an ESEA Title III contract; (Author/EB)

ED 086 SS7

SE 017 229

Ingermun, Garr L.

Charleton County School District, North Charleton County School District, North Charleton, SC

Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE), Washings torr. D.C. Pub Date (73)

EDRS Price MF-\$0.65 HC-\$3.29

Descriptors - Biology. Conceptual Schemes, *Earth Science, Environmental Education, Inatructional Materials, Marine Biology, Natural Sciences, Mocanology, Stephdary School Science, Study Duides
Science, Study Duides
Identifiers—Elementary Secondary Education Act

Title III. ESEA Title III

This publication is designed for use in standard science curricula to develop occanologic mandestations of certain science topics included are teacher guides audent activities, and demonstrations designed to impair occan science understanding specific learning objectives, the ga-

monale, materials needed, and suggested teaches. introductions are presented. The six student activities prepared should enable the students to achieve the suggested objectives til to identife a number of oceanic rones, (2) to describe changes number of oceanic rones, 131 to describe changes in environmental factor related to thange in depth (3) to identify tones of a beach, and (4) to describe the beach rones relative to diversity of organisms, present. This work was prepared under an ESEA Title III contract. (Author/EB)

ED 087 188

Me and My Environment, Unit IV: Transfer and Cycling of Materials in My Environment, Establishmental Edition 1973-74.
Biological Sciences Curneulum, Study, Boulder.

Colo, Spons, Agency—Office, of Education (DHEW), Washington, D.C. Pub Date 73 Note 710p: This document contains 355 leaves.

Note 710p: This document contains 355 leaves, "all of which are 17 inches wide by \$ 1/2 inches, high and require two microfiche frames; For related information see EC 050871. EC 050872. EC 050873. EC 050874. EC 050875! EC 061291. EC 061292 and EC 061293. EDRS Price MF. \$0.65 HC. \$26.32

Descriptors—Adolescents, Behavioral Objectives, Biology, "Class Activities, "Curriculum Guides." "Eddeable Mentally "Handicapped, "Envigon-mental Influences. "Exernitional Child Educa."

mental influences, Exceptional Child Educa-

tions indutry Training, Instructional Materials, Mentally Handicapped, Sciences of The experimental 1973-74 edition of Unit IV

The experimental 19/3-73 edition of Unit IV consists of 28 life service curriculum activities for 13 to Thyear-old educable montally handleapped children. The role of the teacher in continuing field titals is noted and environmental themes and elements, inquiry skills, good and applicational behaviors and attitudes are stressed. Directions for using the student conduction of the student conduction of the student conduction of the student conduction of the student conduction. Adent records of progress and tallysheets are pro-vided for the teachers. The three cores of adiasi-sies are preceded by suggestions of general aims (C.g., student development, of a success syndrome teg., student descriptment, or a success staderome and development of some control over the endiversament), specific goals, objectives, and applanning guide listing materials needed for each activity. Titles for eggs A, which contains severt activities on energy, and material stransfer, the clude 113 Making Compost, 12) The Food Chain Game Revisited, and (3) Food Webs in My Community. Titles of some of the activities in Core B. Decomposers in My Environment site (1) Starting to Round Up the Food Chain: (2) Taking Roj. (3) Planting in Compost, and (4) A Real Oas. Among the mine activity titles for Corp. Co-Garbage and My. Environment-are. (1) Class-room Trash. (2) Every Litter Bri Helps, and (3) The Recycling Pay Off Ageinties are organized? in terms of materials teaching strategiest and an ticipated student behaviors. An evaluation feed-back form accompanies each activity. (\$1C/SM)

ED 087.489 EC 061 291 Me and My Environment, Unit V: Air and Water in My Environment, Experimental Edition

Biological Sciences Eurneul m. Study. Boulder.

Colo
Spons Agency—Office of Edition (IPHEW).
Washington, D.C
Pub Date 73.
Note—1,044p. This document contains 522
leaves, all of which are 11 inches wide by \$11/2 inches high and require two prerofiche frames.

the high and require two microfiche frames.
For related information see, EC 050871. EC u50872: EC 050873. EC 050873. EC 050873. EC 050873. EC 050873. EC 050273. EC 050273. EDRS Price MF-\$0.65 HC \$336.19
Descriptors—Adolescents. Behavioral Objectives, Biology. "Class Activities, "Curreculum Cuides, "Educable Mentally, Handicapped," Environmental Influences, "Exceptional Child, Education, Inquiry Training, Instructional Materials, Mentally Handicapped," Problem, Solving, Sciences

The experimental 1973.74 edition of Unit keengaste of 35 life science cornection activities intended for 13- to 16-year-old educable mentally handicapped adotescents. The role of the teacher in continuing field trials is noted and environment tal thenies and elements, inquiry skills, problem sulying skills and applicational behaviors and at-



dent records-or-progress and fally sheets are provided for the teachers. The seven cores of activity ies are preceded by suggestions of general aims e.g., student development of a success syndrome and development of some control over the environment), specific goals, objectives and a planning guide listing materials needed for each activity. Cores A through D. which focus on needs, sources, processes and management as, sociated with water, contain 21 activities with ti-tles such as (1) Living Things Are Mostly Water, (2) A Trip to the Water Plant, and (3) Microbes in Water Titles for the 14 activities contained in cores E through G-bn components, change agents and additives in air-include (2) Testing for Carbon Dioxide and Oxygen. (2) Weather and Air. and (3) Do We Need a Filter On Our Town? Activities are organized in terms of materials, teaching strategies, and anticipated student behavior. An evaluation/feedback form ac-companies each activity. (MC/SM)

ED 092 358

SE 017 617

O'Connar, Jim Life Science Through Field Esperiences, Science (Experimental): 5311.14.

Dade County Public Schools, Miami, Fla Pub Date 72

Note-28p. An Authorized Course of Instruction for the Quinmester Program EDRS Price MF-\$0.75 HC-\$1.85 & PLUS

POSTAGE
Descriptors—Behavioral Objectives. Conservation Education, * Environmental Education, Instruction, "Instructional Materials.
Science Education, "Secondary School Science Education, "Secondary School Science, "Teaching Guides, Units of Study (Subject Fields)

Idenufiers -- 'Ouinmester Program

This unit of instruction is concerned with briefly interpreting some major life science aspects of the South Florida environment and is dependent on outdoor laboratories, exeursions. and ecology oriented instructional materials. It is suggested that many of the instructional materials ay need to be originated. To make collections in field trips is illegal without a permit, thus, in-formation is provided to facilitate this request No enrollment guidelines are suggested. State-adopted texts relevant to the course are insted The performance objectives and course outline are presented in the booklet Relevant publications are suggested and South Florida Environmental Seience Media Units available from the Dade County Audiovisual Centerare found in the unit. Soggested activities, guest speakers, and field trips are provided. Films available as well as slides, transpatencies, records, and models are listed A list of necessary materials to be purchased is included in the booklet A master theet is provided telating each suggested activity to the specific performance objectives (EB)

ED 093 599

Jackland, Thomas And Others

Environmental Chemistry Activities.

Milwaukee Public Schools, Wis. Div. of Currieulum and Instruction lum and Instruction

Spons Agency_Bureau of Elementary and Secondary Education (DHEW/OE), Washington. D.C. Pub Date 72

Note = 69p EDRS Price MF-\$0.75 HC-\$3.15 PLUS POSTAGE

Descriptors—*Chemistry, Curnculum, *Curnculum Enrichment, *Environmental Education. Instruction, Instructional Materials, *Science Activities, Science Education, *Secondary School Setence

Identifiers-Elementary Secondary Education Act
Title III, ESEA Title III, Milwaukee Public

The authors of this curriculum supplement be-lieve in a laboratory approach to chemistry and express the feeling that environmental chemistry provides the students an opportunity to apply theoretical chemistry to important practical roblems. There are eighteen activities presented, each accompanied with behavioral objectives. one or more suggested methods of procedures, an introduction giving pertinent facts related to the concept being studied, and the materials needed. In some instances there is a suggested Follow Up Teacher Demonstration. A set of environmental

chemical equations is included as well as a chemical equations is included as well an a detailed table. Selected Environmental Pollutants, taken from the United Nations Conference on the Human Environment. The reference list suggests seven publications regarded as being pertinent and useful to any chemistry teacher involved with environmental chemistry. (EB)

ED 093 619

SE 017 108

Curriculum Artivities Guide to Birds, Bugs, Dogs, and Weather and Environmental Studies. Volume 5, 2nd Edition. Hershey, John T.

Institute for Environmental Education, Cleveland,

Spons Agency—Office of Education (DHFW),
Washington, D C Office of Environmental
Education.

Pub Date Aug 73 Grant-OEG-0-71-4622: OEG-0-72-5105 Note-159p.:

Available from-Institute for Environmental Fducauon, 8911 Euclid, Avenue, Cleveland, Ohio 44106

Price MF-\$0.75 HC-\$7.80 PLUS FDRS POSTAGE

Descriptors-Biology, "Curriculum Guides, Ln vironment. "Environmental Education, Field Studies, Instruction, Meteorology, "Science Ac-tivities, Science Education, Secondary School Students, Teaching Techniques Identifiers - losutule for Environmental Educa-

This material is one publication of a series of documents available from the Institute for I is vironmental Education (Cleveland) and econsists of a curriculum activities guide to birds, bugs, dogs, and aveather and environmental studies The first edition of this material was prepared by the Documentation Task Force of Project KARV, Philadelphia, and was revised by personnel at the insutute. The guide is intended for use by institute The guide is interested for use by teachers and students until they feel sufficiently confident to prepare their own materials and is organized into three secuons. Chapter 1 is on awareness activities, 2 on transitional activities, and 3 on operational activities. ties, developed with process skills in mind, are designed to orient students toward a concern for environmental problems and a realization that the environmental problems and a realization that the problems are appropriate subjects for study. Transitional activities are directed toward real community concerns. Operational activities are integrated with community efforts to solve environmental problems. The guide's format is that of a questioning sequence, using questions to £13 lead to the activity. (21) initiate the activity. [24] continue the activity. [24] continue the activity. (4) expand the activity, and (5) evaluate the activity. Teachers using the guide are invited to use only those activities that are most appropriate to their situation. (PEB)

ED 093 648

ershey, John T., Ed And Others Curriculum Activities Guide to Water Pollution: Equipment and Environmental Studies, Volume Hershey, John T., Ed

Institute for Environmental Education, Cleveland, Ohio.

Pub Date Sep 73

Note—130p... Aváilable from—Institute for Environmental Filu cation, 8911 Euclid Avenue, Cleveland, Ohio - 44106 (\$6.75) EDRS . Price

MF-\$0.75 HC-\$6.60 PLUS

EDRS : Price POSTAGE

POSTAGE

Descriptor - Activity Learning, *Curriculum Guides, *Environmental Education, Environmental Research, Equipment, *Caburatory Seminment, Pollution, Student Developed Resources

Identifiers- finstitute for Environmental Educa.

The purpose of this guidebook is to present instructions for constructing low-cost instruments for environmental studies. The instruments discussed were either adopted of designed by itudents who were presented with the problem of producing fow-cost environmental monitoring equipment. This book is a sequel to A Currieu. lum Activities Guide to Water Pollution and finntonmental Studies Volumes I and 2, but can be used independently of the guide information concerning the publication of the euroculum guide mentioned above is available in this document. (JP)

ED 093 682

SE 017 990

Lamb, William G A Sourcebook for Secondary Environmental Education Texas Univ

Austin. Science Education Center. Pub Date [71]

Note-117p

Price MF-\$0.75 HC-\$5.40 POSTAGE

Descriptors *Annotated Bibliographies. "Annotated Bibliographies. Audiovisual Aids. Bibliographies. "Curriculum. "Environmental Education. Instruction. Instruction. Instructional Materials. Learning Acuvities. Literatura Reviews, Science Fiction, "Secondary Gradea, Secondary School Science, Teaching Guidea.

The first sections of this document include a discussion of the general characteristics and and of criteria for choosing environmental education materials for classroom use. The final chapter is a guide to resources for environmental education at the secondary level. Annotated bibliographics of written and of audiovisual materials are provided. Curnicular materials are reviewed and are classified under four headings. Semester and Full-year Courses, Modules and Mini-courses, Field Trip Guides, and Games and Simulations texhteen addresses for sources games and inmulations are listed. The final section discusses the use of science fiction as a classsoon tool and provides an annotated list of science fiction as a class-science fiction stories with environmental themes, an annotated list of special resources, and a list of bibliographies of sources for science fiction studies. (D1)

ED 094 948

SE 016 025

Haltes, Chlian F 4nd Others Environmental Education Activity Sheets I-11. Minnesota I my St. Paul. Agricultural Extension

Pub Date 74

Note-34p *

Available tion - University of Minnesota. Agricultural Latermion Service Bulletin Room. St. Bank, Municana 55101

Protect. MF-\$0.75 HC-\$1.85 POSTACE

"I autonmental " Education. Field Descriptors Studies, Ontdoor Education, Science Activities. Secondary & hard Students Identifiers I assessed of Minnesota These actions sheets, developed by personnel

the Agricultural Extension Service of the University of Atomesota, were designed for youth University of Atamesota, were designed for yourn group vampers for may be used by other populations and individuals. Each activity sheet focuses on a separate topic (1) Selecting Suitable User for Land, (2) Measuring the Steepness of Land, (3) Determine Soil Texture, (4) The Great Rainfall Rumott Race (5) Building a New Town, (4) Findiann's the Person and Forest, (7) Explore (6) Exploring the Prairie and Forest, (7) Exploring the Pand in Lakeshore, (8) Exploring the Soil. (9) I sphaing (tray Squired Environments. (10) Studying Soil Presson and Its Control, and (11) A Classicion Full of Trees. Each sheet is similar in toomat descriptive information is provided relating to the topic of the activity and directions are given for preparing the materials needed for the activity. A brief teaching outline is provided for some of the activities. (PEB)

ED 098 098

SO 007 868 Teaching Resource Recovery in Science, Resource Recovery è ducerion Program.

National Assaciation of Secondary School Principals, Washington, D.C., National Center for Resource Recovery, Inc., Washington, D.C. Pub Date 74

Note 19p. Related documents are SO 007 866. 867, and \$ \cdots

Available from-Vational Association of Secon. dan School Principals, 1964 Association Drive,
Retion Night a 22091 (\$12.00 for kit, 20 percent discount on order of five or more)
FDRA Price ME-30-75 HC Not Available from
EDRS, PULS POSTAGE

Descriptors—Linu Activities, Community Study, *Conservation (Environment), Course Objec-

tives, "Ecology, "Environmental Education, Interdisciplinary Approach. Pollution. Questioning Techniques. Resource Matenais. Science Education. Secondary Education. Teaching Education Secondary Education T Methods Technolog Wasie Disposal

This guide, one component of the Resource Recovery Education Kit (see SO 007 866 for a desemption), contains ideas and activities for seaching about solid waste disposal in secondary level science classes. Among the course objectives are the following (1) to understand that sufficient technology exists to recover a greater segment of the resources than we are now extracting. (2) to learn about improved methods for reducing waste volume and disposing of the reudue, and (3) to develop an understanding of how we can conserve depletable resources for the future. Teaching strategies include constructing models, conducting laboratory experiments research, and classroom discussion. The guide consists of three major study units. (1) Solid Waste: A Growing Problem. (2) Disposal, and (3) Resource Recovery Objectives, student activities, questions for discussion and research. basic understandings to be developed, and in-attuctional resources are provided for each unit. special projects section provides visual and A special propers section provides visual manner than for constructing a model landfill site simulating the wasie conditions that lead to water pollution, identifying the microorganisms responsible for the process of composting, and recycling glass (Author/RM)

Tannes. R Thomas

ED 099 188 95 SE 017 050

Environmental Studies In the Physical Sciences. Project Reports, Volume J. The Rachel Carson Project.

Corvallis School District 509J, Oreg.

Spons Agency-Office of Education (DHEW). Washington, D.C. Office of Environmental Education.

Bureau.No-BR-1-0839 Pub Dase Sep 72 Grant-OEG-0-71-4623

ote-77p; Related documents are SE 017 047-054

Price MF-\$0.75 HC-\$4-20 PLUS **FDRS** POSTAGE

Descriptors—Conservation Education. Curricu-ium Guides. Energy. *Environmental Educa-uon. *Instructional Materials. *Interdisciplinary Approach, Learning Activines, Natural Resources, Physical Sciences, *Program Con-Natural tent. Program Descriptions. Secondary Education. Teaching Guides Idenufiers... Rachel Carson Project

This document is the third of seven accompanying volumes included in the Rachel Carson Project. The project attempts to introduce environmental education lessons and units into ex-tating courses of study within a high school rather than to implement environmental education through the introduction of new courses. This volume reports the environmentally-related activities implemented in a physics and a chemistry program by two of the teachers involved in the project. The Physics unit concentrates on a study of energy beginning with an introduction of the or energy beginning with an introduction of the various forms of energy, i.e., kingtic, potential, work, and heat hext is an examination of the first law of thermodynamies and its application to sseam engines and power sources. The unit concludes with an inquiry into the environmental impact of energy use. A bibliography of the texts and materials used is included. The chemistry unit consists of extronmental projects in three areas literature research, model building, and field research. It includes examples of book reports, an example of a student investigation of the water quality of streams in the area, and a atudent project involving the construction of an electrostate precipitator. (MLB)

ED 099 215 SE 018 278 Latson, Robert J.

Environmental Activities, Senior High School. aramie County School District L. Cheyenne,

ons Agency—Bureau of Elementary and Secondary Education (DHEW/OE). Washing-ton, D.C. Spons Pub Dase 74

EDRS : Price MF-S0.75 HC-\$4.20 PLUS POSTAGE

Descriptors-Conse vation Education. *Curriculum Guides, Ecology, Educational Programa, Environmental Education. Matenals, Interdisciplinary Approach, *Learning Activities. Lesson Plans. Natural Resources. Program Development. Science Education. *Secondary Grades

Identifiers—Élementary Secondary Education Act Title III. ESEA Title III

This guide, for use at the secondary level, to designed to create future citizens who will be aware and understanding of their natural environment. Among the subjects discussed are advertising as an ecological cos-out, recycling, optimum environments, hydrophonics, pest control by means of ultrasonic vibrations, the effectiveness of Cottrett Precipitation on controlling smoke pollusion, and chemical tests for lead and phosphate pollution Each learning activity includes behavioral objectives, directions to the teacher and students, lists of materials needed. references, and a listing of related audiovisual materials. (BT)

ED 099 230 🚌 88 SE 018 433 And Others Junglas, Mare R Environmental Learning Experiences: Blo-Physicul, Senior High School, Willoughby . Eastlake School District, Willoughby, Ohio

pons Agency—Barcau of Elementary and Secondary Education (DHEW/OE), Washing. ton. D.C.

Pub Date 74

Note = 115p EDRS Price MF-50.75 HC-\$5,40 PLUS POSTAGE

Descriptors-Conservation Education, *Curricu-Environment. *Environmental lum Guides. Education. Instructional Materials, Learning Activities. Natural Resources. *Sciences. Natural Resources, *Sciences, Education, *Secondary School *Secondary Science, Teaching Guides Idensifiers—Elementary Secondary Education Act

Tisle III. ESEA Title III

This environmental education curriculum guide was developed for teacher use at the senior high school level. Although the guide deals with the bio-physical aspects of the environment, it is designed to encourage an integration of the disciplines into an inter-disciplinary approach The volume consuts of a set of ideas, activities, and opinions which will help teachers and students generate a positive approach to the en-vironment. The guide is divided into the following six units. Earth Thoughts, which locuses on the student as an integral part of the environment. Quality of Life, which encourages the student to establish what determines his personal quality of life. Environmental Inventory, which examines tools and methods used to investigate environmental problems. Environmental Management. which develops an approach to management through the investigation of a system of water management. Community Problems, which develops an awareness of environmental problems, and Futurism, which looks at changes. developments, and directions in technology. Each unit contains an introduction, stating the purpose and background, instructional objectives, ex-periences, and references. The experiences of each unit are based on an objective which relates to the subject of the unit. Several activities are included in each expenence. (TK)

ED 100 662 SE 018 353 Biology, Environmental Education Guide. Project I-C.E. Green Bay. Wis

Spons Agency-Bureau of Elementary and Secondary Education (DHEW/OE), Washington, D.C., Wisconsin State Dept. of Education. Madison

Pub Date (74) Note-119p

EDRS Price MF-S0.75 HC-\$5.40 PLUS POSTAGE

Descriptors—*Biology, Conservation Education,
*Environmental Education, Instructional Instructional Materials, Interdisciplinary Approach, Learning Activities, Natural Resources, Outdoor Educa-tion, "Science Education, "Scoondary Education, "Science Educati tion, "Teaching Guidex

Identifiers—Elementary Secondary Education Act
Title III, ESEA Title III, "Project I C E

This biology guide, for use at the secondary level, is one of a series of guides, K-12, which were developed by teachers to help introduce environmental education into the total entriculum The guides are supplementary in design, containing senes of episodes (minitessons) that emphasize experimentation and discussion relating to environmental problems making science more relevant to the student. The episodes are built around 12 major environmental concepts that form a framework for each grade or subject area, as well as for the entire K-12 program. Although the same concepts are used throughout the K-12 program, emphasis is placed on different aspects of each concept at different grade levels or in different subject areas. This guide focuses on aspects such as photosynthesis, the food chain, and the watercycle. The 12 concepts are envered in one of the episodes contained in the guide Further, each episode offers subject area integration, subject area activities, interdisciplinary activities, cognitive and affective behavioral objectives, and suggested references and resource materials useful to leachers and stu-dents (Author/TK)

ED 100 663 SE:018 354 88

Earth Science, Environmental Education Guide, Project I-C-E. Green Bay, Wis Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE), Washing-ton, D.C., Wisconsin State Dept. of Education, Madison.

Pub Date [74]

Note-33p EDRS Price

MF-\$0.75 HC-\$1.85 PLUS POSTAGE

Descriptort - Conservation Education. *Earth Science. *Environmental Education. Instructional Materials. Interdisciplinary Approach. Learning Activities, Natural Resources, door Education, *Science Education, *Secondary Education, *Teaching Guides v

Identifiers -- Elementary Secondary Education Act
Title III, ESEA Title III, "Project I C E

This earth science guide, for use at the secondary level, is one of a series of guides. K-12, that were developed by teachers to help introduce envitonmental education into the total corneulum The guides are supplementary in design containing a series of episodes (minilessons) that tocus on student-centered activities allowing the student to make observations, collect data interpret results, and draw conclusions. The episodes are built around 12 major environmental concepts that form a framework for each grade or succept area, as well as for the entire K-IC program Although the same concepts are used throughout the K-12 program, emphasis is placed on different aspects of each concept at different grade levets or in different subject areas. This guide focusex on aspects such as climatic ecosystems. land use, and atmosphere. Most of the 12 concepts are covered in one of the episodes contained in the guide. Further, each episode offers subject area integration, subject area activities. inserdisciplinary activities eognitive and affective behavioral objectives, and suggested references and resource majerials useful to teachert and students (Author/TK)

ED 100 667 88 SE 018 358 Life Science, Environmental Education Guide.

Project I.C.E. Green Bay. Wis. Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE). Washing-ton. D.C., Wisconsin State Dept. of Education. Madison

Pub Date [74]

Note-40p. EDRS Price POSTAGE MF-\$0.75 HC-\$1.85 PLUS

Descriptors—"Biological Sciences, Conservation Education, "Environmental Education, Instructional Materials. Interdisciplinary Approach. Learning Activities, Natural Resources, Outdoor Education, "Science Education, "Secondary Education, "Teaching Guides

This life science guide is one of a seriex of guides, K-12, that were developed by teachers to

Note-g9p

help introduce environmental education into the total curriculum. The materials contained in the guide are supplementary, and designed to aid the cience teacher in providing the kinds of experiences needed by students to gain an un-derstanding of the environmental life processes. The guide contains a series of episodes (minulessons) that are built around 12 major environmental concepts that form a framework for each grade or subject area, as well as for the entire K-12 program. Although the same concepts are used throughout the K-12 program, emphasis u placed on different aspects of each concept at placed in different aspects of each concept at different grade levels of subject areas. This guide focuses on aspects such as succession, emotystems, and the food chain, Most of the 12 concepts are covered in one of the episodes contained in the guide Further, each episode offers subject area integration, subject area activities. interdisciplinary activities, cognitive and affective behavioral objectives, and suggested references and resource materials useful to teachers and students. (Author/TK)

ED 100 697 88 SE 018 595
Physical Science, Environmental Education Guide,
Project I.C.E., Green Bay, Wis.
Spons & Agency —Bureau of Elementary and
Secondary Education (DHEW/OE), Washington D.C., Wisconsin State Dept. of Public Instruction, Madison.

Pub Date [74]

Note = 29p EDRS Price MF-\$0.75 HC-\$1.85 PLUS POSTAGE

Descriptors-Conservation Education, *Environmental Education, Instructional Materials, Inmental Education, instructional statemats, in-terdisciplinary, Approach, Learning Activities, Natural Resources, Outdoor Education, 'Phys-eat Sciences, "Science Education, "Secondary School Science, "Teaching Guides

Identifiers - Elementary Secondary Education Act Title III ESEA Title III. Instruction Curriculum Environment. *Project I C E

This physical science guide for use at the conducy level is one of a series of guides, K-12. the were developed by teachers to help incurriculum. The guides are supplementary in design, containing a series of episodes (minitessont) that emphasize a student-centered, seven-tific approach to cain new and deeper un-derstandings of ecology. The episodes are built around 12 major environmental concepts that form a framework for each grade or subject area, as well as for the entire K-12 program. Although the same concepts are used throughout the K-12 program, emphasis is placed on different aspects of each concept at different grade levels or subpet areas. This guide rocuses on aspects such as light, sound, and nucleut energy. Most of the 12 concepts are envered in one of the episodes contained in the guide further each episode offers. subject area integration subject area activities. interdisciplinary activities, engineive and affective behavioral objectives and suggested references and resource materials useful to teachers and studenta (Author/TK)

ED 100 698 88 SE 018 596

Physics. Environmental Education Guide.
Project L.C.E., Green Bay, Wis
Sports Agency—Burcay of Elementary and
Secondary Education (DHEW/OE), Washington, D.C., Wisconsin State Dept. of Public Instruction, Madison, or
Pub Date [74]

Note-45p EDRS Price MF-50.75 HC-51.85 PLUS POSTAGE

Descriptors-Conservation Education, *Environmental Education, Instructional Materials, Interdisciplinary Approach. Learning Advivites. Natural Resources. Outdoor Education. *Physics. 'Science Education. *Secondary School Science, *Teaching Guides

Identifiers-Elementary Secondary Education Act Title III. ESEA Title III. Instruction Curriculum Environment. Project I C E

This physics guide, for use at the senior high level, is one of a series of guides. K:12, that were developed by teachers to help introduce environmental education into the rotal evericulum. The guides are supplementary in designacontaining a series of epsendes (mindeasons) that focus on atu-

dent-centeted activities with direct application of mathematical and physical laws to modern-day technology. The episodes are built around 12 major environmental concepts that form framework for each grade or subject area, as well as for the entire k-12 program. Although the same concepts are used throughout the K-12 program, emphasis is placed on different aspects of each concept at different grade levels or in different subject areas. This guide focuses for aspects such as mechanics, momentum, and light. The 12 concepts are covered in one of the episodes contained in the guide. Further, each episode offers subject area integration, subject area activities, interdisciplinaty activities, cognitive and affective behavioral objectives, and suggested references and resource materials useful to reachers and students. (Author/TK)

ED 101 945

SE 018 118

[East Syrecuse-Minos Schools Environmental Education Materials, High School Package,

East Syracuse - Minoa Central Schools, East Syracuse, N.Y.

Spons Agency-Office of Education (DHEW), Washington, D.C. Office of Environmental Education. Pub Date [73]

Grant-OEG-0-71-4621

Note-345p.: Best copy available: occasional marginal legibility

DRS Price POSTAGE MF-50.76 HC-517.13 PLUS EDRS

Postage Descriptors—*Biology, Conservation Education, *Curriculum Guides, Scology, *Environmental Education, Independent Study, Interdiscipunary Approach. Natural Resources. Physics.
"Science Education. "Secondary School Science. Units of Study (Subject Fields)
This series of four environmental education

units is designed for use at the high school level. The first unit, an advanced science and independent study, includes such topies as ituaent requirements, advisor responsibilities, evaluation forms, research report format, a guide to Syracuse University libraties, and research ideas The second unit, an ecology course, explorer biotic interrelationships, air quality, water quality, and other ecology-related problems. Course requirements, a course time table, terminal objectives for each area of study, activities, diagrams, worksheets, tables, and reference materials are included An environmental biology unit, the third uljut, is a three-week unit which explores such topics as populations, communities. ecosystems, biomes, and biosphere Worksheets. objectives, resources, project suggestions which correlate course test and other currenium materials are included in the unix. The final unit deals with environmental Physics, exploring noise. air pollution, the automobite, the breyele, aircraft. tolid waste, and electric power. Each topic includes activities and/or an information outline and discussion questions or topics. (TK)

Transect Studies. An Environmental Investigation. Mindesora Environmental Sciences Foundation. Inc., Minneapolis, National Wildlife Federa-

Pub Date 72 Note...33p., Related documents are SE 018 514.

Available from National Wildlife Federation.
1432 16th Street, NW, Washington, DC
20036 (Order No. 79196, \$1.5t)
EDRS Price MF-\$0.76 IIC-\$1.95 PLUS

POSTAGE

POSTAGE

Description: "Ecology, Elementary Grades, "Environmental Education, Instructional Materials, Intermediate Grades, Insertie tional Januar High Schools, "Learning, Activities, Natural, Resources, Outdoor Education, "Science Education, Secondary Grades," Feaching Guides Identifiers-Transect Studies

This environmental unit is one of a senes designed for integration within an esisting eur-neulum. The unit is self-contained and requires minimal teacher preparation. The philosophy of the units is based on an esperience-oriented process that encourages self-paced independent student work. In this unit, students make a line transecs and shen atudy the different organisms

found along it Preliminary activities are encerned with familiarising students with techniques of measuring temperature, light intensity, wind direction, and kinds of organisms. Next, students prepare the materials to be used at the field site. On the field trip, students collect as much data as possible along their transect. At a classroom debriefing session, students discuss their findings and attempt to identify interrelationships. The activities include a list of materials needed. directions for building the equipment, data collection techniques, and questions for discussion The latter half of the unit is devoted to sample graphs and data sheets that can be duplicated for the students Suggested grade levels for this unit are 3-9 (MA)

ED 104 651

SE 018 632

Gail. Peter A And Others A Cur rieulum Activities Guide to Watershed Investigations and Environmental Studies, Volume 6. Revised.

South Brunswick Township Board of Education.

Moomouth Junetton, N J
Spons Agency—Office of Education (DHEW),
Washington, D C
Pub Date Dec 74

Water Resources

Grant-OEG-0-72-4987 Note-154p. Best Copy Available. Oceasional Marginal Legibility

Available from-Institute for Environmental Education, 8911 Euclid Avenue, Cleveland, OH 44106 (\$6,75)

EDRS Pric MF-50.76 HC-58.24 PLUS Price

Descriptors- Environmental Education, Instructional Materials, Investigations, *Learning Activities, *Natural Resources, Outdoor Education, Science Education, Secondary Education. *Teaching Guides. *Water Poliution Control.

This curriculum activities guide provides the teacher with a model for a comprehensive pro-gram in watershed studies. With increased coneem over water poljution, a study of the watershed is important to complete an unwatershed is important to complete an understanding of water drainage problems. This guide includes a rationale for the study of watersheds and develops methods of implementation within the school system. An occational model for a watershed study program illustrates the data to be collected, problems to be identified, and special groups to ne contacted for support. With the teaching activities in the guide. background information is included. A section in the guide explains, the skills needed for the watershed study and appendices at the end include a bibliography and sample organisational information. (MA)

ED 106 084

SE 018 495

West, Landbelow M Environmental Education Study Projects for High School Students Tennessee Valley Authority, Knoxville, Pub Date Jul 74

Note - 14p

EDRS Price MF-50.76 HC-51.58 PLUS POSTAGE

Description - Conservation Education, *Environ-mental Education, *Independent Study, inirructional Materials Learning Activities, Natural Resources, "Science Education," Secondary Education, "Teaching Guides

This paper has been designed as a general guide to the teacher student, group, or club interested in identifying environmental or resource problems at the community level and helping to find satutions to them. The paper discusses the independent studies program as a method of stualting environmental problems as well as a source of academic credit. The establishment of such a program and considerations involved in such 4 study are examined. Environmental problem solvproblems are also discussed. The paper presents three project types which make he used as guidelines for other sudependent studies. The first project involves identifying and lessening the my-g pact of a community environmental problem and involves either study of the relationships between related concerns and establishing practities or assexing the personned problem through a number of intercess or questionniates. The second proect. Assessing Instruct of a Developmental Project, thisless using some of the guidelinest established by the Saturnal Environmental Protection Agency in their impact statements. The third project, Encironmental Research, equires a laboratory tost facility. Suggested readings and a checklist of environmental concerns are included in the paper (TK)

ED 107 471 SE 018 149
Environmental Studies Protram: A Manchestee
Waceshed Training Project. SE 018 149

Manchester Board of Education, N.H., Saint An-

selms Coll. Manchester. N H
pons Agency-Office of Education (DHEW).
Washington, D.C. Office of Environmental Education

Pub Date (74) Grant _- 0EG-0-73-5432

Note—244p., Best Copy Available, Occasional Marginal Legibility— EDRS Price MF-50.76 HC-512.05 PLUS

POSTAGE

POSTAGE
Descriptors—Curriculum. "Ecology. "Environ.
mental Education. Equipment. "Guides. Instructional Materials. "Program Oescriptions.
Reports. Secondary Education. "Secondary School Science

Described is a project insolving the Manchester Public School System and St. Anselm's College. intended to bring about value changes in the estisena of Manchester and surrounding towns and to bring about ecological reform, social ecology, and good conservation methods and practices. The project involved the use of students, high school teachers, college faculty mem. bers, and the State of New Hampshice officials from the State Water Pollution Board. State Conservation Departments. State Air Pollucion Board and State Education Department The Studies Program, the program background and the proeet staffing are described. An outline of the New England Inservice Environmental Education Program is included in the document An Environ-mental Studies Guide including a nigh school ecology curriculum, is presented along with a complete description of Environmental Education Homemade Equipment A special report on Stevens Pond and a copy of the presentation units are also included in the Program package (EB)

ED 108 890 SE 019 068 Brown . Robett T . Ed. Clatk. Bathara G . Ed

Horse Manure and Other Fun Peolects. Field Stu-dles and Laboratory Especiances in Environmental Biology A Book of Experimental Ideas for Secondary School Biology Teachers. pons Agency—Namonall Science Foundation. Spons Agency-Namonal)

Pub Date 71 Note—140p: The product of a conference held on lale Royale National Park. June 1971 Best copy available, occassional marginal legibility

Washington, D.C.

Price MF-\$0.76 HC.\$6.97 POSTAGE

Description - Biological Sciences Biology, Con-servacion Education, Emisconmencal Education, "Instructional Materials, Interdisciplinary Approach, Natural Resources. Outdoor Education. "Science Education. Secondary Educa-

This guide contains a collection of laboratory and field inquities designed to promote ecological awareness, sensitivity, and understanding. The activities compiled by 28 teachers are for use in teaching biology at the secondary level. They are presented in a "recipe" form to make it possible, for teachers without prior experience or training to use the activities with ease and confidence. The experiments are generally exemended, leaving the teacher and students with extensions for further activities. Nine chapiers are included in the golde Planning Outdoor Field Experiences. Field Studies, Physical Factors. Field Studies. Plants: Field Studies, Animals, Field Studies, Succession: Field Studies, Water Organisms, Laboratory Studies: Human Ecology, Pollution, and Population, and Permanent Outdoor Facilities Development and Use Each chapter contains a

number of activities. The activities contain, when appropriate: the purpose, procedures, materials. observations, suggestions and discussion topics. and conclusions. A reference section including books, programs, and resource people completes the guide (TK)

ED 108 891 SE 019 069 Energy Activities and Resources for the Secondary

Student. Kingsport City Schools. Tenn. Pub Date 75

Note = 74p.

Price MF-\$0.76 HC-\$3.32 PLL'S POSTAGE

Descriptors... *Energy. Energy Conservation. Environmental Education. Inscreen Educa-Materials, "Nacucal Resources Science Educa-School Students, "Teaching Envitonmental Education. "Instituctional Guides

The materials in this guide provide secondary level atudents (7-12 grade) the opportunity to become aware, knowledgeable, and motivated to find possible solutions to one urgent and complex energy related problems. Five interdisciplinary units are presented in the guide. Uses of Energy. Present and Future Sources of Energy. Conserva. tion of Energy. Environmental Impact of Energy Related Activitiet, and Energy Limits-Resource. Finitude. These units are flexible and are to be used by the secondary together subject to heribis plans and schedules. Each unit contains an overview, objectives, and suggested activities. The activities include such processes and skills as mathematical estimates discussion, comparisons. creative writing, and inquiry and discovery activities. Alto included in the guidf are additional activities, appendices, energy related resources, and energy related terms. (TK)

ED 133 224 SE 021 899 McCurcheon, Patricia And Others Prionty One: Environment. Air Pollution and

Your Health. Union Township Board of Education, N.J.

Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE), Washington, D.C., New Jersey State Dept. of Education, Trenton Div of Research, Planning, and Évaidation Pub Date 75

Note-28p. For related documents, see SE 021 898.906; Not available in hard copy due to copyright restrictions DRS Price MF-50.83 Plus Postage. HC Not

Available from EDRS.

Descriptors—Air Poliution Control. ment. "Environmental Education: Health Edu-eation. "Instructional Materials. Pollution "Secondary Education. "Units of Study (Subicct Fields)

Identifiers-Elementary Secondary Education Act

Title III. ESEA Title III

This unit is one of a series on environmental education for grades 1-12. The unit is designed tobe used with secondary school students and includes the following sections: (1) Seeing-Issues as Human Values. (2) The Future of the Automo. Human Values. (2) The Puture of the Automo-bile. (3) Soot. Smog. and Smell. How Much Harm Can They Oo. (4) Emission Control Devices for the Automobile. (5) Pollution Con-trol for Industries and Power Plants. (6) Air Pol-tution Legislation: (7) The Clean Air Amend-ments Today. and (8) Schedule-Sheet for the Late. References. = 10 audiovisual materials. worksheets, and activives are made, these maten. . als are not included with this publication, but may be purchased. The materials have been validated as successful, cost-effective, and caportable by the standards and the guidelines of the U.S. Office of Education. (RH).

ED 133 225 SE 021,900 -McCurcheon Patricia And Others Priority One: Environment: Air Pollution and Your Health, Teacher's Guide.

Linion Township Board of Education, N.J.

Spons Agency—Buccau of Elementary and Secondary Education (DHEW,OE). Washington, D.C., New Jersey State Dept of Education, Trenton Div of Research, Planning, and Evaluation. Pub Date 75

Note-28p.: For related documents, see SE 021

898-906. Not available in hard copy due to

copyright restrictions
EDRS Price MF. \$0.83 Plus Postage, HC Not Available from EDRS.

Descriptors- "Air Pollution Control. "Environ. ment. "Environmental Education. Health Education. Instructional Materials. "Pollution, "Secondary Education. "Teaching Guides Identifiers—Elementary Secondary Education Act

Title III. ESEA Title III .
This teaching guide is designed to be used with secondary school students and the unit Air Pollution and Your Health. Material for the teacher includes the following (1) an introduction to the unit: (2) a discussion of the sections of the unit: (3) instructional objectives. (4) suggestions for use of-filmsigps, worksheets, reference materials, and activity cards, and (\$17% outline of the unit. These materials have been validated as successful. cost-effective, and exportable by the standards and guidelines of the U.S. Office of Education. (RH)

ED 133 226

SE 021 901

Colagrande. John Santarsiero, Thomas Priorite One: Environment, Protecting Our Water Supplies.

Union Township Board of Education, N.J. Spons Agency-Bureau of Elementary Secondary Education (DHEWOE), Washington, DC, New Jersey State Dept. of Education, Trenton, Die of Research, Planning, and

Evaluation Pub Date (75)

Resources

Identifiers-Elementary Secondary Education Act
Title III. ESEA Title III

This unit is one of a senes in envitonmental education for grades 1-12. The unit is designed to be used with secondary school students and includes the following sections: (1) Preface: (2) Riverview. (3) A Healthy Waterway: (4) An Unbanthy Waterway. (5) Cleanup Technology: (6) Effects of Certain Other Pollutanss: (7) Lake Tahoe. (8) The Role of the Individuals and (9) Schedule Sheet for the Unit. References to eudiovisual materials, worksheets, and activities are made; these materials are not included with this publication but may be purchased. These materials have been validated as successful, cost-effective, and caportable by the standards and the guidelines of the U.S. Office of Education, (RH)

SE 021 902 Cotogrande, John - Santarsuro, Thomas, Priority One: Environment. Protectiog Our Water Supplies, Teacher's Guide.

Unton Township Board of Education, NJ.

Spons Agency—Bureau of Elementary and Secondary Education (DHEW/DE). Washington, D.C. New Jersey State Depe. of Education, Trenton Div of Research, Planning, and Evaluation. Pub Date [75]

Pub Date 175]
Note—28p.: For related document, see SE 021
898-906. Not available in hard copy due to

marginal legibility of original document EDRS Price MF-\$0.83 Plus Postage. HC Net Available from EDRS.

Assilable fram EDRS, "Environmene. "Environmental Education. Instructional Materials, Natural Resources, "Secondary Education. "Teaching Guides. "Water Resources Identifices—Elementary Secondary Education Act

Title III, ESBA-Title III.

Material for this teacher's guide include: (1):an introduction to the limit. (2) a discussion of the sections of the unit. (3) instructional objectives: (4) suggestions on use of filmstrips, worksheep, reference materials, and activity cards; and (\$1 an outline of the unit. These materials have been validated as successful, cost-effective, and ea-Ortable by the standards and guidelines of the U.S. Office of Education (RH)

ED 133 228

SE 021 903

And Others Augis, Lynne riority One: Environment. The Energy Challenge. Union Township Board of Education, N.J.

Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE), Washington, D.C. New Jersey State Dept. of Education, Trenton Div. of Research, Planning, and Evaluation

Pub Date (75) Note—40p. For teleted documents, see SE 021
898-906. Not available in hard copy due to
copyright restrictions
EDRS Price MF-50.83 Plus Postage. HC Not

Available from EDRS.

Descriptors—"Energy, "Environment, Environmental Education, "Instructional Materials, "Natural Resources, "Secondary Education, "Units of Study (Subject Fields), Wastes Identifiers—Elementary Secondary Education Act

Title III. ESEA Title III

This unit is one of a series in environmental education for grades 1-12. The unit is designed to be used with secondary school students and in-cludes the following sections: (1) Preface: (2) Foods, Firels, and You, 13) Blackout in the City; (4) Conservation and Efficiency; (5) Our Present Sources; (6) The Oil Critis; (7) The Neulear Controversy; (8) Tapping New Resources; (9) Developing Other Ways, and (10) Schedula Sheet for the Unit. References to audiovisual aids, worksheets, and activities are made, these materials are not included with this publication, but as are not included with this publication, our may be purchased. These materials have been validated as successful, cost-effective, and exportable by the standards and the guidelines of the U.S. Diffee of Education, (RH)

ED 133 229 SE 021 904

Augis, Lynne And Others Priority One: Environment, The Energy Chai-Priority One: Environment. The Energy lenge, Teacher's Guide. Union Township Board of Education, N.J.

pons Agency—Bureau of Elementary and Secondary, Education (DHEW'OE), Washington, D.C.; New Jerses, State Dept. of Education, Trenton, Div of Research, Planning, and

Evaluation.
-Pub Date [75]

Note—32p; For related documents, see SE 021
898-906; Not available in hard copy due to
copyright restriction;
EDRS Price MF.50.83 Plus Postage, HC Not
Available from EDRS.

EDRS Price MF.50.83 Plus Postage. HC Not Available from EDRS.

Descriptor.— Energy. Environment. Environmental Education. Instructional Materials.
Natural Resources. "Secondary Education." Teaching Guides. Wastes Identifiers...Elementary Secondary Education Acc Title 18. ESEA Title 18.

Material for this teacher's guide includes [1]

an introduction to the unit: (2) a discussion of the sections of the unit. (3) instructional objectives; '(4) suggestions on use of filmstrips, worksheets, seference materials, and activity cards; and (5) an outline of the unit materials have been validated as successful, cost-effective, and exportable by the standards and guidelines of the U.S. Office of Education. (RH)

ED 133 230 Knapp, Clifford SE,021 905

Priority One: Environment, Open Lands and Wil-Union Township Board of Education, N.J.

Opion Township Board of Education, 50 a Spons Agency Bureau of Elementary and Secondary Education (DHEW/OE), Washing-ton, D.C; New Jetsey State Dept of Educa-tion, Trenton Div of Research, Planning, and Evaluation.

Pub Date [75] Note-40p.: For related documents, see SE 021 198-906; Not available in hard@copy due to copyright restrictions

EDRS Price MF-S0.83 Plus Postage, HC Not

Available from EDRS.
Descriptors— "Ecology, "Environment, Environmental Education, "Instructional Materials, Land, Use, "Natural Resources, "Secondary Education, "Units of Study (Subject Fields), Education, "Units of "Wildlife Management

Identifiers... Elementary Secondary Education Act Tale III. ESEA Tale III

This is one of a series on environmental

education for grades 1-12. The unit is designed to education for grades 1-12 for unit is designed to be used with secondar) school students and includes the following sections: (1) Preface: (2) Dead or Alive: (3) Finding Out by Looking Closely; (4) A Year in the Life of a Twin Fawn. (5) Ecology; (6) The Tools of Wildlife Management; (7) Land Use. (8) Helping a Threatened Population. A Model for Aerion: (9) Suggested Strategies for Aerion. (10) Appendices, and (11) Schedule Sheet for the Unit References to audiciously materials, worksheets, and activities are diovisual materials, worksheets, and activities are made, these materials are not included with this publication but may be purchased. The marerials in this unit have been salidated as successful. cost-effective, and expertable by the standards and guidelines of the U.S. Office of Education. (RH)

ED 133 231 SE D21 906 Knapp. Clifford

Priority Ont: Environment, Open Lands and Wildlife, Teacher's Guide.
Union Township Board of Education, S J

Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE). Washington, D.C., New Jerse) State-Dept of Education, Trenton Div of Research, Planning, and Evaluation. Pub Date (75)

Note-34p. For related documents, see SE 021 898-905; Not available to hard copy due to copyright restrictions

EDRS Price MF-S0.83 Plus Postage, HC Not Available from EDRS.

Available from EDRS.
Descriptors—Ecology. "Environment, Environmental Education, Instructional Materials, Land Use. "Natural Resources. "Secondary Education. "Teaching Guides, Units of Study (Subject Fields), "Wildlife Management Identifiers—Elementary Secondary Education Act. Title III, ESEA Title III Material in this teaching guide theilides: (1) an introduction to the unit. (2) a discussion of the unit. (3) interpretational objectives.

sections of the unit. (3) instructional objectives. (4) suggestions for use of filmstrips, worksheets. reference materials, and activity eards; and (5) an outline of the unit. These materials have been validated as successful, cost-effective, and exportable by the standards and guidelines of the U.S. Office of Education. (RH)

- 11 SE 022 012 ED 137 075 Terry, Mark Witt, Paul Energy and Order or If You Can't Trust the Law of Conservation of Energy, Who Can You

Friends of the Earth Foundation, San Francisco, Calif.

Pub Date 76

Note = 47p.: Not available in hard copy due to copyright testrictions

Available from - Friends of the Earth, 124 Spear Street, San Francisco, CA 94105 (no price Quoted)

EDRS Price MF-\$0.83 Plus Postage. HC Not

DNS Frice properties of the Available from EDRS, *Environment. *Instructional Materials. *Natural Resources. Secondary Education. *Secondary School Science.

Teaching Guides
This instructional program is designed to be med with grade 10 students for 4 to 5 weeks to help students to predict what will happen in a given energy situation. It is designed to lead stu-dents to an understanding of their personal ener-gy use, to a realization of the moral nature of the assumptions underlying energy decisions, and to a ballet that they can and should participate in oblight that strey can and should participate in decisions affecting their lives. Materials include: (1) Understanding Energy and Order - An Aenvity; (2) Energy and Order Primer - Presentation: (3) The Nucleac Accident - Presentations (4) The Automobile Accident - Presentation, 15) The Population Accident - Presentation; (6) Understanding What's on the Bill - An Activity; (7) Understanding What's in the Container - An Activity; (8) The Green Revolution - Presentation and (9) What's Keeping Us - Presentation. (RH)

Pesticides and the Marine Environment. A Learn-Ing Experience for Coastal and Occanic Awareness Studies, No. 237, [Project t O NST].

Deloware Unic., Newark Coll of Education Spons Agency—Office of Education (DHEW). Washington, D.C.

Pub Date 74

Note-20p. For related documents, see SE 022 662.687

EDRS Price MF-\$0.8A HC-\$1.67 Plus Postage.

Descriptors= *Environment. *Instructional Materials, Marine Biology, "Oceanology, "Pesticides, Pollurion, Secondary Grades, Secondary School Science, Teaching Guides, Units of Study

Identifiers-Project COAST

This document, for secondary school audents, is designed to provide an introduction to the effects of pesticides in organisms and the ensironment, included are background materials for the teacher, charts and graphs of the effect of chemi-cals on organisms, questions for discussion and study, and references. (RH)

ED 141 175 SE 022 700 Marine and Environmental Studies Field Manual. Cranston School Dept., R.L. Warrenk School Dept., R.L.

Spone Agency - Bureau of Elementary Secondary Education (DHFW OF), Washington. O C Pub Date Sep 73

Sole_14kp. Page 77 missing from document. Best Copy Acuitable EDRS Price MF-\$0.83 HC-\$7.35 Plus Postage.

Descriptors -- Amount Sewner. *Hudnesal Sentiness Earth Sentines Chemistre tional Materials *Oceanidage Phesical Sciences: Plaor Science, Second by Education, *Secondary School Science, *Units of Stude

Identifiere Elementary Secondary Education Act. Title III, ESF A falle III, Tides

The fabricatory manual was developed for a field oriented high solitod accumulate program. The origination of the units includes a selection of supplementary activities in allow students to expline needs studies in more depth. Included oxpanie hectar studies in more septem increases are 19 units. The units include hiological occumography, physical occumography, and same social science topics. A suggested sequence of activities is provided (RH)

ED 147 188

Science Packets.

Maine Audubon Society#Falmouth

retains Audubon Society/Falmouth
Spons Agency—Office of Education (DHEW),
Washington, D.C.
Bureau No—522AH60802
Pub Date Scp. 77

Grant-G006702036

Note—85p: For related documents, see SE 023 370 and SE 023 258-259; Not available in hard copy due to marginal legibility of original docu-

EDRS Price MF-\$0.83 Plus Postage, HC Not

Available from EDRS.
Descriptors—Energy
*Enstronmental Education. Conservation.
*Instructional Materials, Learning Activities, Natural Resources, Reference - Materials, *Resource Materials, Science Education, *Secondary Education, *Teaching Guides Identifiers—Environmental Energy Education

Project

This Publication is an energy guide for teachers it contains discussions and illustrations of five major topics the sun's radiant energy, solar collection, solar cells, bioconversion (wood, grains waster, and wind Each section includes a usting of the concepts contained within and a bne: discussion-explanation section. There is a short publicgraphy included, (MA)

ED 149 993 SE 023 463 Environmental Education, Values for the Future:

Environmental reducation, Values for the Future: Ecosystems, Grades 9-12. Illinois State Office of Education, Springheid. Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE), Washington, O.C., Pub Date 77

Grant-10E.551-2.75

Note-64P; For related documents, see SE 023
448-457 and SE 023 459-465 Pages 25.50 ("Eeu-Catastrophe") and page to ("Environment Grass Grows in Parking Lints")

removed prior to being shipped to FDRS due to copylight restrictions.

EDRS Price stf-S0.83 HC.\$3.50 filus Pontage.

Descriptors—"Ecology, "Environmental Education, "Instructional Materials, Interdisciplinary Approach, *Leathing Activities, situral Resources, Resource Materials, *Secondary

Education, *Teaching Guides, Values Identifiers-Elementary Secondary Education Act Trate 181

This booklet on ecosystems is one in a on environmental education for grades K-12. The activities explore the structure and dynamic flature of ecosystems, as well as the interactions between humans and ecosystems four basic f-behavioral objectives are listed with activity options and appropriate subject areas. Each activity includes materials and resources, procedures, and discussion questions. The twelve activities are interdisciplinary and are designed for him school students, grades 9-t2. Materials include illustra-tions, data sheets, worksheets, and case studies (MAI

ED 149 994 SE 023 464 Environmental Education, Values for the Future:

Energy, Grades 9-12. Rlinois State Office of Education, Springfield
Spons Agency—Bureau of Elementary and
Secondary Education (DHEW OE), Washington, D.C. Pub Date 77

Grant=10E-551-2-75

Note - 18p. For retailed documents see SF 023
448,457 and SE 023 429,465. Contains occanonal light and broken type

EDRN Price MF-\$0.83 HC-\$3.50 Plus Podage. Concentrated

*Environmental Education *Instruction Conversation *Environmemal *likeruetional *Entropy
Materials: Intermount
*I carning Activities: Natural Resource

*Advisation: *Secondary Education. *Teaching Guides Identifiers—Elementary Secondary Education Act.

Tale 10

This booklet on energy is one in a series on enstronmental education for grades K-12. The until twittes explore energy use and rechnology, along with their envirtiomental impact tive have behavioral objectives are listed with activity siptions and appropriate subject areas. Three astistties are given for each objective. Information for ness includes materials and assistances, incedures, and discussion questions. The activity ties are interdisciplinary and are, designed for high school students, grades 9-12. They include role playing, games and simulations, physics esperiments, and mathematical calculations lilius, trations, data sheets, worksheets, and tables are also given (MA)

ED 156 479 SE 024 440 Growth: How Much is Too Much? Studem Book. Science Madule 19th-10th Grade Blology). Science Madule Revised Edition.

Georgia Univ. Attens Coll of Education Spons Agency—Office of Education (DHEW). Washington, D.C.

Burcau No-522AH51215

Pub Date 77
Note 104p; Foe related documents, see SE 024
441-447. Portions of or the entire page of
pages 5. 21, 26, 62, and 78 have been removed
due to copyright restrictions; Contains occasional light and broken type; Photographs may
not reproduce well
EDRS Price WF, \$0.83 HC.\$6.01 Plus Postage.
Detemptors—Coluse Content. *Ecology.
*Environmental Education. *Instructional
Materials, fland Use *Population Education.
Science Education, *Secondary
Waste Disposal Pub Date 77

Science Edyca Waste Disposal

This learning module is designed to integrate environmental education into ninth, and tenth-grade chemistry classes. This module and a compasion social studies module work-pilot tested in Gwinnett County. Georgia in 1975.76. The module is divided into four parts: Part one provides a broad overview of unit coment and proposee questions to stimulate student interest in environmental problems. Part two is intended to develop an understanding of population dynamics. Part three deals with population and land use. Part four addresses the problems of waste disposal The module is intended to take 16 or 17 days to complete Same of the activities included . re a population study using microbes, a study of Implicate, soil moisture and percolation rate, and simulated aoning board meeting. (BB)

ED 156 480. SE 024 441 Growth: How Much is Too Much? Teacher's Guide, Science Module (9th-10th Grade BlotoGeorgia Univ., Athens, Coll of Education. Sports Agency—Office of Education (DHEW).
Washington, D.C.
Bureau No=522AH51215

Pub Date 77

Note—38p. For related documents, sec SE 024'
440-447; Contains light and broken type in
"Role Descriptions"

EDRS Price MF-\$0.83 HC-\$2.06 Plus Postage.

Descriptors - Course · Ecology Content. *Environmental Education, Instruction, Land Use. *Population Education. Science Educa-tion. *Secondsry Education. *Teaching Guides. Waste Disposal

This is a teacher's guide for a learning module designed to integrate environmental education into minth and tenth-grade chemistry classes This module and a companion social tiudies module were pilot tested in Gwinnett County. Georgia in 1975-76 The module is divided into four parts. Part one provides a broad overview of unit content and proposes questions to stimulate student interest in environmental problems Part student interest in environmental problems part two is intended to develop understanding of populstion dynamics. Part three deals with popu-lation and land use Part four addresses, the problems of waste disposal. This guide includes proparation for class activities, suggested sequence of instruction, and suggested short. answet review quizzes (88)

SÈ 024 444 ED 156 483 Water: How Good is Good Enough? Student Book. Selence Module (9th. 10th, Grade Chemisley). Revised Edition. Georgia Univ. Athens Coll of Education

Spens Agency—Office of Education (DHEW),
Wishington, D C
Bureau No—522AH51215
Pub Date 77

Note-66p, For related documents, see SE 024
440-447; Portions of or the entire page of pages 31.32, and 40-42 have been removed due to copyeight restrictions, Photographs may not reproduce well

EDRS Price MF.50.83 HC.\$3.50 Plus Postage. Education, Esperientis! Learning,

*Instructional Materials, Pollution, Senence
Education, Secondary Education, Waste
Disposal, Water Pollution Control. *Water

This learning module is designed to integrate environmental education into ninth- and tenth-grade chemistry classes. This module and a compatron social studies module, were pilot tested in Gwinnett County, Georgia in classes of students, many of whom had learning disabilities It emphasizes activity learning. The module is divided into four parts. Part one it on water sources, part two on water quality, part three on sewage treatment, and part four is a feview (the water game) There is a total of 14 activities designed for 14 days Some of the activities are a field trip to the county water treatment plant, the hydrologic cycle, a cloud formation demonstration, and an investigation of the water table, 188)

EB 156 484 SE 024 445.
Water: Haw Good is Good Enough? Teacher's.
Guide. Science Module. 1918: 10th Grade.

Georgia Univ. Athens Coll of Education. Spins Agency—Office of Education (DHEW), Washington D.C.

Bureau No-522AH512I5 Pub Outc 77

Nuc -51p. For related documents, see SE-024
Nuc -51p. For related documents, see SE-024
A4ti-447. Fuge 21 remayed due to copyright
restrictions. Not available in hard copy due to
marginal deginitity of original document

marginal legibility of original document

EDRS Price MF-\$0.83, Plus Postage, HC Not
Available from EDRS...

Descriptors—Course — Content; — Currectium
Guides "Fretronmental Education, Esperiential Learning, "Instructional Materials, Sciebe
Iducation, "Secondary Education, "Teaching
Guides, Waste Disposal, "Water Pollution Control, "Water Recourses"

This is a tracher's words for a modular designed

This is a reacher's guide for a module designed to integrate environmental education into ninth-and tenth-grade chemistry classes. The module, pilir texted in Gwinnett County: Georgia in classes of students, many of whom had learning

disabilities, emphasizes activity learning and con-siderable review. The module is divided into four parts. Part nnc. is on water sources, part two on water quality, part three nn sewage treatment. and part four the water game) is a review. There is a total of 14 activities designed for 14 days. Summary statements, broad objectives, discussion topics and questions, supplementary resources, and helpful hints are given for each activity. Also included in the guide are a list of overall objectives, the module sequence, and a list of equipment and supplies (88)

ED 157 758

SE 024 760

Extense Larry

Chemistry (or Polistica Control. Seminole County Board of Public Instruction. Sanford, Fla

Spons Agency - Florida State Dept. of Education.
Tallahassee. Office of Environment Education. Pub Date Jun 76

Note - 38p. BDRS Price MF-50.83 HC-52.06 Plus Postage,
Descriptors—"Chemical Analysis, Chemistry,
"Environmental Education, "Instructional
Materials, "Laboratory Procedures, "Secondary
School Science, "Water Pollution Control

This booklet presents some methods of quanintance chemical analysis currently used in the field of fresh water pollution control Only those sests that may be performed with hittle of no specust reagents or pieces of equipment are listed. The booklet addresses the following determina-tions (1) acidity, (2) alkalimity, (3) chloride, (4) hardness, 15) deygen dissolved, 16) pH value, (7) phosphate, all forms: (8) solids, suspended, and (9) solids, total. (Author/RH)

ED 164 334 SE 025 991' Raşmussen. Frederick A.

Coastal Awareness: A Resource Guide for Teachers In Senior High Science, Preprint. National Oceanic and Atmospheric Administration

(DOC), Rockfille, Md Office of Coastal Zone

Management, Rib Date—Mar 78 Note—75p., Contains occasional light type EDRS Price MF-50.83 HC:33:50-Phs Postage. Descriptors-Acttrities. Biological Sciences, En-

vironmental Education, Instructional Materials.
*Marine Biology, Natural Sciences "Resource Guides, Science Education, Secondary Education. "Secondary School Science The stated Purpose of this resource Buide is to

entice teachers to explore ecological aspects of eoastal awareness. Discussions describe different characteristics of the eoast such as. (1) was es. currents, and tides. (2) sandy beaches. (3) focky shores. (4) estuaries, and (5) marshes. These discussions present some of the physical processes that occur along the coast and how those processes affect the ecology of the coast. Some activities are suggested which can inclease high school students awareness of the coast. A resources section including (1) reading suggestiont. (2) list of films. (3) some federal and state information sources, and (4) a glossary is pre-sented. (MR).

ED-170 138 SE 027 591

Benson Delwin E

Helping Wildlifer Working With Nature. Wildlife Management Inst., Washington, D.C. Pub Date-77

Note-32p.: Shaded graphs and drawings may not reproduce well

SE 027 598

Available from-Wildlife Management Ipatitute. 709 Wire Building 1000 Cermont Ase., N.W., Washington, D.C. 20005 (\$1.00 postpaid) Pub Type—Reports - Descriptive (14.1)

EDRS Price - MF01/PC02 Plus Postage.
Descriptors- Conservation (Environment). Con-Servation Education. "Ecology. "Environment, Environmental Education. Environmental Influences. "Natural Resources. "Wildlife Manage. ment

This booklet is intended as a guide for teaching some basic ecological concepts of natural resources and wildlife management. The document is divided into eight sections dealing respectively with ecological concepts: elements of the environment that support life, habitals, population dynamics; aspects of sildlife population management; what wildlife managers do: opportunities for needed action, and a section providing additional sources of information. (Author/RE)



ED 170 141

SE 027 603 。

Storius, Croig A. And Others
County Sensing and the Earth.
Breard County Board of Public Instruction. Tituswille. Fla., National Aeronauties and Space Administration, Washington, D.C.

Pub Date-Dec 77 Note-515p: Not available in hard copy due to numerous colored and shaded Photographs which

Available from—School Board of Brevard County.
Instructional Services Div. Project Remote Sens. (

ing. 1274 South Florida Avenue. Rockledge. Florida 32955 (59 74)

Pub Type— Guides - Classroom - Learner (051)

EDRS Price - MF02 Plus Postage. PC Not Availa. ble from EDRS.

Descriptors—Cartography, *Earth Science, *Envi-roumental Education, Instructional Materials, Learning Activities, Natural Resources, Refer-ence Materials, *Resource,Guides, *Science Education, "Secondary Education, "Space Sciences.

Technology
Identifiers—Remote Sensing
This document is designed to help senior high school students study remote sensing technology and techniques in relation to the environmental sciences. It discusses the acquisition, auxlysts, and use of ecological remote data. Material is divided suto three sections and an appendix Section Que is an overview of the basies of tempte sensing. Section Two contains selected readings which report formal rwo contains selected leadings which report formal research in agriculture, land use, geology, water re-sources, marine resources, and the environment. Section Three is composed of fundamental labora-tory exercises which explore map reading and analysis, characteristics of the visible spectrum, and other relevant areas. The appendix contains supplemental references. Document includes numerous photographs and drawings, as well as study guides after each chapter (MA)

ED 170 153

SE 027 631

Chave, E. H. And Others
HMSS (Hawaii Marine Science Studies) Sampler: Sammer 1978 Draft Edition.

fawasi Univ., Manoa Curriculum Research and Development Group

Spons Agency-National Science Foundation, Washington, D.C.

Washington, D.C.

Pub Date—78

Grant—NSF-SMI-PCTD-77-13210

Note—53p; Not available in hard copy due to markginal legibility of original document

Pub Type— Reports - Desymptive (141)

EDRS Price - MF01 Plus Postage, PC Nor Available from Fring.

ble from EDRS. Descriptors-Course Content, *Earth Science, *Environmental Education, Instruction, "Marine Biology, "Oceanology, Science Activities, Biology, *Oceanology, Science Activities, Science Education, Secondary Education, *Secondary School Science Identifiers- Manne Science

The Hawaii Marine Science Studies (HMSS) Project has developed over twenty instructional units. which include student laboratory and field investigations, teacher guides and supplementary reference materials. HMSS units can be taught as a one of two semester course in high school manne science, or selected portions can be combined as marine science modules for use in other secondary courses. Design of HMSS materials is based on the premise that study of the oceans provides Opportunity for students of all abilities to actively engage in multidisciplinary scientific mourry while learning basic concepts of science. HMSS units are organ-Ited around the three themes Two of the themes. the Fluid Earth and the Living Ocean, together represent the traditional areas of oceanograph). The third theme, Technology and the Ocean, Provides a natural science background for the study of specotechnical issues, instructional units included under each theme are listed in this bookiet along with sample instructional materials (Author/BB)

ED 173 158

SE.028 406:

Tullock, Bruce, Ed. And Others
Solar Energy Project: Teacher's Guide.

Department of Energy, Washington, D.C. New
York Staic Education Dept. Albany, Bureau of
Science Education, Stale Univ. of New York, Albany. Atmospheric Science Research Center. Report No - DOE-CS-0060

Pub Date-Jan 79

Note-45p For, related documents, see SE 028 407-413

Available from Superintendent of Documents. US Government Printing Office, Washington, DC 20402 (Stock Number 06),000-00234-1. 52 20)

- Guides - Classroom - Teacher (052)

Pub 13 pe Guides Cassifonia reasine (1952)
EDRS Price - MF01/PC02 Plus Postage.
Descriptors - *Energy, Environmental Education.
Interdisciplinary Approach. *Science Curriculum *Science Education. *Science Instruction. Science Programs. Secondary Education.
*Solar Radiation. Technological Advancement.

Technology Identifiers-*Energy Education. *Solar Energy

This collection of materials supports the teaching of solar energy concepts in the context of secondary school science. Included in this collection are a basic teacher's guide to activities involved in the curriculum. a discussion of multi-disciplinary extensions of solar energy education by subject area, a section on hardware needed for the probulem; and a section of resources and reference (RE)

D 173 163

Tullock, Bruce, Ed. And Others Solus Energy Project, Activities: General Solar Topies.

": 'SE 028 411

Department of Energy, Washington, D.C.: New York State Education Depr. Albany Bureau of Science Education: State Univ of New York, Albany. Atmosphene Science Research Center. Report No - DOE-CS-0061

Pub Date -Jan 79

Note-19p., For related documents, see SE 028 406-413

Available from-Superintendent of Documents. U.S. Government Printing Office, Washington, D.C. 20402 (Stock Number 061-000-00231-6: 52.50)

- Guides · Classroom · Teacher (052) Pub Type. EDRS Price - MF01/PC04 Plus Postage.

Descriptors—Class Activities Ecology, Economics, *Energy, Environmental Education, History, *Lesson Plans, *Science Education, *Secondary Education, *Social Studies, *Solar Radiation, *Technological Advancement, Technology

Identifiers-Energy Education. *Solar Energy

This guide contains lesson plans and outlines of activities which introduce students to concepts and issues relating to solar energy. Lesson's frequently presented in the context of solar energy as it relates to contemporary energy problems. Each unit preand knowledge: matenals: method: Questions: suggestions for further work, and a teacher informa-tion sheet. The teacher information sheet provides target grade level subject areas involved for the lesson and background material, hints on gathering, materials for the lesson, suggested time allotment. suggested approach, typical results, precautions, modifications, evaluation, and references. (RE)

SE 028 252 Resource Material Developed for Secondary Edu-cation: 18 Booklets.

cation: 18 Booklets, Odeland Island Education Center, Savannah, Ga. Spons Agency—Office of Education (DHEW), Washington, D C Office of Environmental Education.

Pub Date -[76] Grant - G007602019

Note-259p., Page 17 of "Living on Water, Its Environmental Impact" missing from document prior to its being shipped to EDRS for filming:

prior to its being shipped to EDRS for filming:
Contains oceasional marginal legibility
Pub Type—Guides · Classroom · Teacher (052)
EDRS Price · MF01/PC11 Plus Postage.

Descriptors—Biology. "Conservation (Environment), "Ecology, Environment, "Environmental Education," Ecology, Environmental Influences, Health. Politicon, "Science Education, Soil Conservation.

Soil Science: Units of Study, Water Pollution Control, Water Resources
Each Learning Activity Packet in this screes de-

Each Learning Activity Packet in this series de-lineates performance objectives, procedures, materials, and references. Some also contain pre-and post-tests. They are primarily intended for the secondary level. The topics are (1) Noise Pollution: (2) Georgia Ports Authority: Its Environmental Impact: (3) Environmental Experiencing. (4) Me in My Environment. (5) Lead Rossoning: A Health Problem in Savannah. (6) Weeds: Dandelion. Goldenrod. Regueed. Crabgrass. (7) Honey Bees, (8) Non-Point Pollution. (9) Is a Dead Log Really Dead?: (10) Soil: (11) The Value of Composing: (12) Water Conservation. (13) Microecology: A Discovery Field-Oriented Activity. (14) A Healthy Ecosystem and the Concept of Diversity. (15) Living on the Water. Its Environmental Impact: (16) Working with Water: (17) Water AVital Resource: and (18) Hurtieanes: A Threat to Our Environment. (TM)

ED 175 723

SE 028 806

Bennett, Dean B Zaulin, Samuel Student Study Guide - Water Quality Monitoring
Approach to Watershed Studies. Presumpscot Rier Education Project.

Maine Association of Conservation Commissions. Augusta., Maine Univ. Portland-Gorham.
Spons Agency—Office of Education (DHEW).

Washington, D.C. Office of Environmental Education.

Pub Date—75 Grant—GOO7407348

Note-59p.; Contains occasional light and broken type

Pub Type- Guides - Classroom - Learner (051)

Descriptors—Ecology. *Environment. *Environmental Education. *Environmental Influences.

Higher Education. *Pollution. *Science Education. tion, Se condary Education, Undergraduate Study.
*Water Pollution Control, Water Resources

Identifiers—*Monitoring
This guice is designed for both independent study and class use. It provides the basis for a unit in a science class for the secondary school level. At the undergraduate college level, it provides an outline of activities for a contract as part of an education or science course. The lessons in the guide concentrate on the application of science skills and concepts in identifying and solving water and land environmental Problems. (Author/RE)

ED 175 728 Mariton, James W., Ed. Hall, James 4, Ed. Student, Made Environmental Studies Equipment. Volume I.

Manchester Board of Education, N. H., Saint An-

selm's Coll. Manchester. N.H. Spons Agency—Office of Education (DHEW). Washington, D.C. Office of Environmental Education.

Pub Date→75

Grant OEG.0-73-5422 Note-39p. For related document, see SE 028 812;

Photographs will not reproduce
Pub Type: - Guides - Classcoom - Learner (051) —
Guides - Classroom - Teacher (052)
EDRS Price - MF01/PC02 Plus Postage.
Descriptors - Art Education, "Class Activities. Environment, "Environmental Education, Equipment, Handstrat" "Industrial Arts, "In meni. Handierai., "Industrial Arts, "Instructional Signeria"s, "Interdisciplinary Ap-

*Instructional Materials. *Interdisciplinary Approach. Recycling, Science Education. *Science Education. *Science Education. *Science Education. *This document contains a content which can be made by junior high and high school students. The products of these student projects can be employed in the study of the end contained and range in topic from the study of theoretical oxygen demand in water to the construction of a back pack. Materials used in each project, are generally readily available as salvaged material or for little cost. Projects involve a variety of manus salvaged complex. Construction of these devices may draw on the re-Construction of these devegs may draw on the resources of various secondary school disciplines. sci (RE)

ED 175 729 · SE 028 812 ED 175 729
Morrison, James W. Ed Hall, James 4, Ed.
Student, Made Emfronmental Studies Equipment.

Volume 11. Manchester Board of Education, N.H. Saint An-

cation.

Pub Date-75 Grant-OEG-0-74-7345

Note-59p : For related documenti see SE 028 811;

Photographs will not reproduce

Pub Type— Guides - Classroom - Learner (051) — Guides - Classroom - Teacher (052) — Guides - Classroom - Teacher (052) EORS Price - ViFOI - PCO3 Plus Postage.

Descriptors — Arr Education. * Class Activities. Environment. * Environmental Education. Equipment. Handicrafts. Industrial Arts. * Instructional Materials. Interdiscoluzion. Accessed. Politicals. Materials Interdisciplinary Approach, Pollution, *Recycling Science Education, *Science Equipment, *Secondary Education

Twenty two Projects are described in this booklet. Materials necessary for constitution can be ob-tained for little cost of as salvaged parts. Equipment Produced by these projects can be used in the collection and study of plants and animals and in the study of environmental quality parameters such as air quality and soil condutions. Construction of some of the devices may draw on the recourses of various secondary school disciplines (RE)

ED 175 730 SE 028 813 Morrison, James W. Ed. Hall. James A., Ed. Terrestrial Ecology Guide.

Manchester Board of Education, N.H., Saint An-

relm's Coll., Manchester, N.H.
Spons Agency—Office of Education (DHEW),
9 ashington, D.C. Office of Environmental Education Pub Date-

Grant-OEG-0-74-7345

Grant—OEG-0-74-7345
Note—159p. Photographs will not reproduce
Pub Type—Guides · Classroom · Teacher (052)
EDRS Pricef · MF01 · PC07 Plus Postage.
Descriptors—Biology Botany. Class Activities,
*Eeology Environment Environmental Education. Instructional Materials. Interdisciplinary
Approach. *Aftersi Resources. Outdoor Education. Bollymon. Science Education. *Secondary
*Secondary** tion Pollution. Science Education, *Secondary Education, *Zoology This collection of study units focuses on the study

of the ecology of land habitats. Considered are such topics as map reading field techniques, forest eco-system, birds insects small mammals, soils, plant ecology, preparation of terranums, air pollution, photography, and essentials of an environmental udies program. Each unit contains instructions and materials lists necessary to implement the les-sonsecontained in the unit (RE)

SE 029 134 Natigation, Northern New England Marine Edu-estion Project.

Maine Univ. Orono Coll. of Education., Maine

Univ. Orono Sca Grant Program.

Spons Agency—National Oceanic and Atmospheric Administration (DOC). Rockville, Md. National Sca Grant Program.

Pub Date—78
Note—51p., For related documents, see SE 029
132-135, Not available in hard copy due to copynght restrictions

Pub Type- Guides - Classroom - Teacher (052) EORS Price - NIFOI Plus Postake, PC Not Availa. ble from EDRS.

Descriptors-Astronomy, Earth Science, Ecology. Environment. *Environmental Education, Geos-raphy, Geometry, Interdisciplinary Approach, *Mathematics Education, *Navigation, Ocean Engineering, Oceanology, *Science Education, *Secondary Education, Technical Education, *Secondary
Technology
Sea Grant Identifiers-

This guide provides student practice problems which use the procedures of ship navigators to reinforce the skuls of mathematics learned in the sec-Ondary school and which seek to provide examples of the application of mathematical concepts. Along with the practice problems, teacher background material is Provided briefly in the body of the unit.
More detailed explanations are provided in the appendices. A reference section is included, (RE)

ED 179 355 SE 028:771

Famsworth Corolyn Mayer, Victor J.

Lake Erle and Changing Linke Levels, Student
Galde and Teacher Guide, OEAGLS Investiga-

Ohio State Univ., Columbus, Research Foundation. Spons Agency—National Oceanic and Atmospherie Administration (DOC). Rockville, Md.

Pub Date—Mar 79
Grant—NOAA-04-8-M-01-170;
Note—269; For related documents, see SE 028
768-774; Prepared in collaboration with the Ohio

Pub Type-- Guides - Classroom - Learner (051) - Guides - Classroom - Teacher (052)
EDRS Price - MF01/PC02 Plus Postage.

Descriptors—Earth Science, Elementary School Science, Elementary Secondary Education, Environmental Education, "Instructional Materials, Lesson Plans, "Occanology, "Science Activities, Science Course Improvement Project, Science Curriculum, "Seience Education, Science Instruction, Secondary School Science, Worksheets Identifiers-Oceanie Education Acuy for Great

Lakes Schools, Ohio Sea Grant

This guidebook for teachers is accompanied by a atudent workbook. The investigations are intended to offer students an opportunity to learn about the causes and effects of increases in the level of Lake Enc and the effects of lake level regulation, lilustrations and graphs accompany the written material. (Author/SA)

Kennedyr Beth A. Fortner, Rosannt W Coastal Processes and Erosion, Student Guide and Teacher Guide, OEAGLS Investigation 7. Teacher Guide, OEAGLS Investigation 7.
Ohio State Univ. Columbus Research Foundation.
Spons Agency—National Oceanic and Atmospheric Administration (DOC). Rockville. Md.
Pub Date—Feb 79
Grant—NOAA-04-8-M-01-170;
Note—39p., For related documents, see SE 028
768-774, Prepared in collaboration with the Ohio
Sea Grant Program

Sea Grant Program

Sea Grant Program
Pub Type—Guides · Classroom · Learner (051) —
Guides · Classroom · Teacher (052) —
Guides · Classroom · Teacher (052) —
EDRS Price · MF01/PC02 Plus Postage.
Descriptors—"Curriculum Development, Environmental Education, "Geology, Instructional Materials, "Océanology, "Science Activities, Science Course Improvement Project, Science Curriculum, Science Education, Science Instruction, Secondary Education, Secondary School Science
Lighthifers—"Oceanie Francisco Science Lighthifers—"Oceanie Francisco Science Lighthifers—"Oceanie Francisco Science Lighthifers—"Oceanie Francisco Science Lighthifers—"Oceanie Francisco Science Lighthifers—"Oceanie Francisco Science Lighthifers—"Oceanie Francisco Science Lighthifers—"Oceanie Francisco Science Lighthifers—"Oceanie Francisco Science Science Lighthing Science Science Lighthing Science Science Lighthing Science Science Lighthing Science Lighthing

*Oceanic Education Activ for Great Identifiers-Lakes Schools, Ohio Sea Grant

This investigation focuses on the major erosional forces affecting the shoreline which cause it to wear away and build up. The types of devices that protect the shoreline are also discussed. The investigation is presented in the form of a teachers' stude and a students' guide, both of which are included. In the teachers' guide, an overview of the material is followed by the objectives and procedures to use during the investigation. Naternais and objectives are listed and suggestions are given on the approach to use. Teansparency masters accompany the teachers' guide and instructions are included Review ques-tions are suggested. (SA)

Lay, Gary A., Ed. McCurdy, Donald, Ed. Basic Teaching Units, BTU's on Energy, Nebraska Energy Conservation Plan. Sebraska State Energy Office, Lincoln.

Pub Date—[78] Note—598p. Not available in hard copy due to marginal legibility of original document. Appendix 6, pages VII-53 through VII-58 and XIN-27 removed due to copyright restrictions.

Available from—Nebraska State Energy Office, 201

South Centennial Mail 4th Floot, P.O. Box. 95085, Lincoln, NE 68509 (no price quoted)
Pub Type— Guides - Classroom - Teacher (052)
EDRS Price - MF03 Plus Postage, PC Not Available from EDRS.

Die from 1985.

Descriptors—"Curriculum, "Ettergy, "Energy Conservation, "Fuel Consumption, Fuels, Home Economies, Industrial Arts, "Interdisciplinary Approach, Natural Resources, Petroleum Industry, Physics. Science Education. *Secondary Education, Solar Radiation, Vocational Agriculture Identifiers—*Energy Education This collection of 21 teaching units is designed for

use in energy education within various disciplines of the secondary curriculum. Each unit is designed to stand atone. Suggested teaching times range from five to fifteen days. No particular order of Presentation is implied. Each unit is organized as follows abstract, recommended level, time required, teaching Strategies, advance preparation, goals and objecuves, daily lessons recommended, evaluation suggestions, and bibliography Units that require handouts or transparencies include duplication masters. Teachers are encouraged to modify the units. Topics include scientific principles of energy, historical, present and future energy sources; economics; and solar energy (RE)

ED 179 411 SE 029 434 Braun Ludwig Friedland James Huntington II Simulation Program BUFLO. Student Workbook, Teacher's Guide, and Resource Handbook. Digital Equipment Corp., Maynard, Mass., State Univ. of New York, Stony Brook, Huntington Computer Project. Spons Agêncy—Nauonal Science Foundation,

Spons Agêney—Nauonal Science Foundation, Washington D.C.
Pub Date—Mar 74
Grant—NSF-GW-5883
Note—65p.; For related documents, see SE 029
a35-440 and ED 093 644-645, Not available in hard copy due to marginal legibility of original document

Pub Type- Guides - Classroom - Learner (051) -Guides - Classroom - Teacher (052) EDRS Price - MF01 Plus Postage, PC Not Availa-

bie from EDRS.

Descriptors—"Computer Assisted Instruction, Computer Programs, "Ecology, Environment, "Environmental Education, Game Theory, Models, Natural Resources, 7Science Education, Secondary Education, "Simulation, "Wildlife ondary Education, Management

Described is the use of the computer model "BU-FLO." BUFLO. is a simulation which allows students to study the historical and biological reasons for the catinetics of the bullator BUFLO simulates the natural life cycle of the outlate and allows the student to mampulate harvesting policies to reach certain goals outlined in the student handbook. (Author) RE)

Braun, Ludwig Friedland, James
Huntington II Simulation Program - POP, Student Workbook, Teacher's Guide, and Resource:

Handbook.
Digital Equipment Corp. Maynard, Mass.; State Univ of New York, Stony Brook. Huntington Computer Project.
Spons Agency—National Science Foundation, Washington, D.C.
Pub Date—Mar 23
Grant—NSF.GW.5883

Tote—68p; For related documents, see SE 029 434-440 and ED 095 644-645. Not available in hard copy due to marginal legibility of original

document
Pub Type--- Guides - Classinom - Learner (051) -Guides - Classicom - Teacher (052)
EDRS Price - MF02 Plus Postage, PC Not Available from EDRS.

Descriptors—"Computer Assisted Instruction, "Ecology, Enterpology, Enterpology, Enterpology, Theory, Models, "Population Education, "Population Geowth, Science Education, Secondary Education," Simulation, Zoology

Described is the population growth computer mode! "POP." This program is designed to allow a student with little mathematical background to ex-Diore various simple mathematical models of popuis: on Stouth Student exercises revolve around the fronts of a gypsy-moth population. Three vacauoza of population modeling are included in POP. POP 1, simple exponential growth, POP 2, including an environmental limiting factor, and POP 3, a odei with an courtofimental limiting factor and other modifications. (Author/RE)

ED 179 416 SE 029 439 Friedland, James Huntington II Simulation Program - TAG, Student -Workbook, Teacher's Guide, and Resource

Digital Equipment Corp., Maynard, Mass., State Univ. of New York, Stony Brook, Huntington Computer Project.

Spons Agency—National Science Foundation, Weshington, D.C. Pub Date—May 73 Grant—NSF-GW-5883

Note-55p. For related documents, see SE 029 434.440 and ED 093 644-645; Not available in hard copy due to marginal legibility of original document

Pub Type— Guides • Classroom • Learner (051) — Guidet • Classroom • Teacher (052) EDRS Price • MF01 Plus Postage, PC Not Availa.

ble from EDRS.

becomptons—Biology, "Computer Assisted In-struction, "Conservation Education, Environ-ment, Game Theory, Instructional Materials, Natural Resources, Population Growth, Sampling. "Science Education, Secondary Education,
"Simulation, "Wildlife Management

Presented are unstructions for the use of "TAG." a model for estimating animal population in a given area. The computer program asks the student to estimate the number of bass in a simulated farm pond using the technique of tagging and recovery. The objective of the simulation is to teach principles. for estimating animal populations when they cannot be counted directly or when counting would disturb or harm the animals. (Author/RE)

SE 029 440

Friedland, James Huntington II Simulation Program - USPOP, Student Workbook, Teacher's Guide, and Resource Handbook.

Digital Equipment Corp., Maynard, Mass.; State Univ. of New York, Stony Brook, Huntington Computer Project.

Spons Agency—National Science Foundation,

Washington, D.C.

Pub Date-Jun 73 Grant-NSF-GW-5883

Note-101p. For related documents, see SE 029 a34.439 and ED 093 644.645. Not available in hard copy due to marginal legibility of original doćument

Pub Type— Guides · Classroom · Learner (051) — Guides · Classroom · Teacher (052) EDRS Prire · MF01 Plus Postage. PC Not Availa-

ble from EDRS.

ble from EDRS.
Descriptors—Computer Assisted Instruction,
"Demography, Environment, Environmental
Education, Family Planning, Game Theory,
"Population Education, Science Education, Secondary Education, Science Education, Secondary Education, Simulation
Presented are instructions for the use of "US-POP," a human population model which involves omputer simulation. The student may manipulate anables, which affect the population dynamics of the United States, Baseline data are drawn from the 1970 census. Variables which can be manipulated include ferrility, age of mother at birth of child, sex fatto of offspring, and age-dependent mortality. tatio of offspring, and age-dependent mortality. (Author/RE)

ED 180 757

SE 029 366
Student Guide for Environmental Education Program. Revised Edition.
Atlanta Pubine Schools. Ga.
Pub Date—Sep 73
Note—79p.. Not available in hard copy due to marginal legibility of original document. Pages 38-39. and 72 removed due to copyright restrictions
Pub Type— Guides - Classroom - Learner (051)
EDRS Price-MF01 Plus Postage. PC. Not Availa-

ble from EDRS. Descriptors—Curriculum. *Environmental Educa-tion. *Independent Study. Instructional Materi-als. *Learning Activities Research Methodolosy.

ais. "Learning Activities Research Methodology. Research Projects. Science Education. "Secondary Education. "Student Projects. "Student Research, Study Guides. Urban Schools Presented is a student learning guide for high school students worshing independently on a self-paced research project in an environmental field Students are introduced to environmental awareness and the environmental crisis, and are presented with a variety of techniques heipful in conducting a research Project. Included are choosing a problem. writing a proposal, conquering an interview, planning research, carrying out the research project, and project evaluation. (BT)

SE 029 432

ED 180 791 Posthuma, Fred_Stephes, Merle Introduction to Energy, Instructional Modules and Transparency Masters.

Wisconsin Univ. Madison, Wisconsin Vocational Studies Center Pub Date-78

Note-139p. Not available in hard copy due to .

copyright restrictions

Available from-Wisconsin Vocational Studies Center, 1025 W. Johnson St., Publications Unit. Room 265. University of Wisconsin, Madison, WI 53706 (S6 50) Pub Type—Guides - Classroom - Teacher (052) EDRS Price - MF01 Plus Postage, PC Not Availa-

ble from EDRS

Descriptors—"Carneulum, "Energy, "Energy Con-servation, "Environmental Education, Natural Resources, "Science Education, Secondary Education. Solar Radiation

cation. Solar Rad, ation Identifiers—* Energy Education This energy module is intended for an introduc-tory course on energy for secondary school classes it consists of ochsoloral objectives, general background sociability, Jesson outlines, coordinated ac-tivities, and an antiotated bibliography of resources. It is intended to provide a fundamental guide for the establishment of the teacher's own energy currieulum. Because the module is intended to include a shop or lab component, the first two lessons deal with a preliminary introduction and safety. (Author)

ED 180 809 Metro, Peter M. Green, Rachel E. SF 029 538

The Pond Community, Teacher's Manual,
Rocky River Public Schools, Ohio,
Spons Agency—Ohio State Dept of Education,
Columbus, Div. of Research, Planning, and Evaluation.

Pub Date -Mar 77

Note-71p. For related document, see SE 029 537.

Note—71p. For related document, see SE 029 537.
Contains occasional light and broken type:
Pub Type—Guides · Classroom · Learner (051) —
Guides · Classroom · Teacher (052)
EDRS Price · MF01/PC03 Plus Postage.
Descriptors—*Biology. Conservation Education,
*Ecology., *Environment, *Environmental Education. Natural Resources. Science Activisies.
Science Education. Secondary Education. Teaching Guides. *Water Resources
This study guide is intended as preparation for a
visit to a pond Each lesson includes pre-study questions and post-study questions and post-study guestions involving the content

tions and post-study questions involving the content of the lesson. Numerous drawings and disgrams are ineraded in each lesson. Also included in the guide are siglossary. Sibilography, and a detailed teacher's guide (RE)

ED 180 833 SE 029 82 Hyman, Connne B. Van Siekle, Janes Life Systems Program, Woodstock Country SE 029 824

Life Systems Program. Woodstock Country
School: A Preliminary Currieulum Guide.
Woodstock Country School, South Woodstock, Vt.
Spons Agency—Office of Education (DHEW).
Washington, D.C. Office of Environmental Educatio#.

Pub Date-78 Grant-G007802594

Note-198p.: Contains occasional marginal legibil-

ity
Pub Type— Guides · Classroom · Learner (051) —
Guides · Classroom · Teacher (052)
EDRS Price · MF01/PC08 Plus Postage.
Descriptors—Art Education. ° Curriculum Development. Environment, * Environmental Education. * Humanities Instruction. * Interdisciplinary Approach, * Seience Education. * Secondary Education.

eation Trus curriculum guide presents documentation of This curriculum guide presents documentation of cevelopment of a holistic approach, ag curricula in science, art, humanities, and environmental education for the secondary school level. The outgrowth of this curriculum development was the integration of these disciplines into a "life systems" curriculum in houring an interrelated leaching approach. The carrieu.um was implemented in a private selfool us-17 2 tri-mester program Adaptation to public sensor schedules should not be difficult (RE)

SE 030 347 Bottuntili. Charles A., Ed. Dow. John O. Ed. Energy and Energy Conscrealion Activities for High School Students.

Energy Information Associates, Inc., Littleton. Calo

Spons Agency—National Science Foundation. Washington D.C. Report No -- SPI-78-04527

Pub Date—Apr 79 Note—233p: Contains marginal legibility in Appendices

pendices

Available from-Energy Information Associates, Inc. 2690 W. Main St., Littleton. CO 80120 (\$6.00 plus handling and postage).

Pub Type—Guides Classroom Learner (051) — Guides Classroom Teacher (052) EDRS Peice MF01/PC10 Plus Postage.

Descriptors—"Class Activities. Energy. "Energy-Conservation. Environment, "Environmental Education, "Interdisciplinary Approach, Math-

ematres Education, Natural Resources, "Physical Sciences, Science Education, Secondary Education, "Solar Radiation

This manual contains fifteen energy activities suitable for high school physical and environmental science and mathematics classrooms. The activities are independent, each having its own objectives. introduction, and background information A speeral section of each activity is written for the instruc-tor and contains limits, sample data, and suggestions for follow-up activities. Most of the activities are analytical or empirical and require students to have completed a second year of high school algebra.

(Author/RE)

ED 184-859

SE 030 512

Biglan, Barbara Urban Environmental Education Project, Curriculum Module I: Energy Generation - Sources and Consequences.

and Consequences.

Allegheny Intermediate Unit. Pittsburgh. Pa

Spons Agency—Office of Education (DHEW).
Washington. D.C.

Pub Date—3ul 79

Note—62p: For related documents, see SE 030

511-519. Contains occasional light type.

Pub Type—Guides · Classroom · Learner (051) —
Guides · Classroom · Teacher (052)

EDRS Price · MF01/P003 Plus Postage.

Descriptors—°Class Activities. °Electricity. °Energy. Energy Conservation. Environment. Environmental Education. Fuel. Consumption. *Fuels.

"Natural Resources. "Science Education. Secondary Education, Urban Education Identifiers—*Energy Education Included in this module are five activities dealing.

Included in this module are five activities dealing with sources and consequences of Power produc-tion The activities include (1) restew of the nature of energy, (2) options for power production, (3) energy resources and their sources. (4) energy and the future, and (5) a simulated energy conference in 1984. Also included are an overview, teacher background information, an activity preview, a pretest, and a module evaluation form. (RE)

SE 030 518

ED 184 865 SE 030 518

Nous, Albert P Biglan, Barbara

Urban Environmental Education Project, Curriculum Module VII: Urban Ecology Our
Future Together.

Spons Agency—Office of Education (DHEW), Washington, D C
Pub Date—Aug 79

Note-43p, For felated documents, see SE 050 511-519.

Pub Type - Guides - Classroom - Learner (051) -

Pub Type—Guides • Classroom • Learner (051) —
Guides • Classroom • Teacher (052)
EDRS Price • MF01/PC02 Plus Postage.
Descriptors—Class Activities • Decision Making.
• Ecology, Environment. • Environments • Education.
• Environmental Influences. Natura, Repasources. Pollution, • Science Education.
• Secondary Education. Urban Education. • Leban Environment

Included in this module are four activities dealing with ecology and applications of ecological princi-ples in the urban environment. Activities included are (1) the study of ecology (2) study of vonse-quences of activities within 3 ecosystem. (3) environmental impacts-benefits and detriments, and (4) choices for the future. Also included are an overview teacher background information, an activity preview, and a precest A module evaluation form and a script for a slide series on Alleshen, County. Pennsylvania are also included (RE)

ED 190 400

SE 031 493

Jones, Michael

Limnology, Student Fieldbook, Nebraska State Dept. of Education, Lincoln Div of Instructional Services Pub Date -- 7?

Note-56p.; Not available in hard copy due lo copyright restrictions

Pub Type- Guides · Classroom · Lesrner (051) EDRS Price - MF01 Plus Postage, PC Not Available from EDRS.

Descriptors-Environmental Education Higher Education, Instructional Materials, "Laboratory Manuals, "Outdoor Avenities, Science Education. *Science Experiments. Secondary Educa-tion. *Water Resources Identifiers...*Limnology, Water Quality

This student fieldbook provides exercises for a three-week course in limnology. Exercises emphaize applications of knowledge in chemistry, phyics, and biology to understand the natural operation of freshwater systems. Fourteen field excreises include (1) testing for water quanty, (2) determination of water temperature, turbidity dissolved-oxygen, earbon dioxide, aikalinity, acidity pH, phosphates, nitrates, (3) sampling at shoreine. in open water, and bottom mud, and (4) examination of samples at those levels. Notes for four telelessons, data tables, and apparatus diagrams are also included (CS)

ED 194 302 Meyland, Sarah J SE 032 766

It's Only a Little Planet: A Primer for Ocean

Studies.

Texas A and M Univ., College Station Sea Grant
Coll. Program
Report No.—TAMU-SG-79-404
Pub Date—Sep 78
Note—81p; Not available in hard copy due to

Note—519; Not available in name copy use to copyright restrictions. Available from—Sea Grant College Program. Texas A&M University, College Station, TX 77843 (55-00).

Pub Type— Guides · Classroom · Learner (051)

EDRS Price - MF01 Plus Postage, PC Nor Available from EDRS.

ble from EDRS.

ble from EDRS.

Descriptors—Chemistry, Ecology, "Environmental Education, "Field Trips, Higher Education, "Manne Biology, "Oceanography, "Outdoor Education, Science Education, From Program, Funded by the National Sea Grant Program Indiana Computations of Computation

Program, lunded by the National Sea Grant Fig-gram, this learner's manual outlines ocean studies conducted on a seven-hour eruise of the Galveston Bay area. A description of the geology and human use of Galveston Bay follows a general introduction to coastal and estuarine ecology. Line drawings il-lustrate plankton and fish common to the study area. Also explained is the operation of the graitity corer, plankton net, reversing thermometer, otter keawl, and other sear employed in the eruise investirawl, and other gear employed in the cruise investigations In addition, the guide discusses both theory and techniques of salimity and dissolved oxygen determination. A glossary defines frequently-used terms. (WB)

ED 194 325

Rawson, Mac Trussell, Gale
Alabama 4-H Marine Pilot, Manual.
Auburn Univ., Ala Cooperative Extension Service
Mississippi Alabama Sea Grant Consortium

Ocean Springs, Miss.

Spons Agency—Extension Setylee (DOA), Washington, D.C., National Oceanic and Atmospheric Administration (DOC), Rockville, Vtd., National

Sea Grant Program
Report No.—MASGP-78-024
Pub Date—Aug 78
Grant—NOAA-04-7-158-44017

Note-43p, Contains occasional light and broken

Available from-National Technical Information

Available from—National fectinical information Service, Operations Div. Springfield, A 22161 (Order No. PB-287-924; SW.F. 3600)

Pub Type—Guides - Classroom - Learner (051)

EDRS Price - MF01/PC02 Plus Postage,
Descriptors—"Ecology, Environmental Education,
"Marine Biology, "Oceanography "Outdoor Education, Secondary Education "Secondary School Systems." School Science Identifiers— Marine Education

Bnef descriptions and eight activities related to zooplankton, sharks, dune ecology, ocean currents, and sea products comprise this manual. Among the activities are harvesting scafdod, making Japanese fish prints, and tracing marine currents with dust bottles. (WB)

ED 196 702 Flowers John D SE 033 646

Making Water Pollution a Problem in the Class-

Making Water Pollution a Problem in the Classroom Through Computer Assorted Instruction.
Pub Date—Oct 80
Note—20p., Paper presented at the Annual Convention of the National Association of Biology
Teachest (Boston, MA, Oc. her. 19-25, 1980)
Pub Type—Guides Classicism - Teacher (052) —
Speeches Meeting Parers (150)
EDRS Price - MF01 PC01 Pt., Postage,
Descriptors—*Computer Associational Methods, *In-

structional Materials, "Problem Solving, "Proglamed Instruction, Science Activities, Science Education, "Secondary Education, Secondary School Science, "Water Position

Alternative means for dealing with water pollution control are presented for successful dealines. One computer oriented program is described in terms of teaching wastewater in ratment and pollution concepts to middle and secondary school stodents. Suggestions are given to neip teachers use a computer simulation program in their elastrooms. Formulating hypotheses, identifying and man pulating variables, analyzing computer generated data tables, and graphic displays are desembed with regard to problem solving (Author/CO)

ED 200 409 SE 034 450 Pennsylvania's Energy Curriculum for the Second.

ary Grades: Biological Science. Pennsylvania State Dept of Education, Harrisburg

Spans Agency Pennsylvania State Governor - En-ergy Council Harrisburg. Pub Date 80 Note- 31p. For related documents, see SE 034

450-457

Pub Type Guides: Classroom - Teacher (052)
FDRS Pheny MI 01 PC02 Plus Postages
Descriptors Chambers Bloamy Econgy "Energy
Environmental Education "Science Activities
"Science Education Science Instruction "Secundary School Science

Identifiers. Alicinative Energy Sources

Described are about two dozen laboratory experimeans demonstrations and class discussions intended to suppoment secondary school biology currently with energy-related fearing activities. Consepts your med in these materials include photosynthesis energy from biolinos feeding relafuniships peacheds and respiration become contain makes to the teacher, objectives discussion specially and recommended procedures (WB)

ED 200 410

SE 034 453

Pennsylvania's Energy Curriculum for the Secondary Grades: harth Science.

Pennsylvania State Dept. of Education, Harrisburg Spons Agency - Pennsylvania State Governor's Energy Council, Harrisburg

ergy Council, Harricourg
Pub Date—80
Note—60p. For related documents, see SE 034
450,257. Maps may not reproduce well
Pub Type—Oudes - Classform - Teacher (052)
EDRS Price - MF01 PC03 Plus Postage.
Descriptors—Eart. Science, "Energy Environmental Education, Field Tries." Geology. Natural
Resources, "Science Education, Science Instruction." Secondary. School Science. tion "Secondary School Science

Two dozen energy-related earth science lessons comprise this guide for secondary school teachers Intended to provide information about energy cours that exist in Pennsylvania and throughout the world, the activities cover topics such as coal min-ing, radioactivity, and the distribution of oil and gas in Pennsylvania Lessons include objectives, procedures, illustrated student handouts, and reacher references. Also listed are mines, museums, and power plants in Pennsylvania that earth science classes could visit (WB)

ED 202 724

SE 035 151

ED 202 724

SE 035 151

Maver, Fieter J And Others

PCBs in Fish: A Problem: Student Guide and

Teacher Guide, OEAGLS Investigation 19.

Ohio State Link: Columbus Research Foundation

Spons Agency—National Oceanie and Atmospheric Administration (DOC), Rockville, Md

Pub Date—Mar 81

Grant—NOAA-04-8-M01-170, NOAA-04-158
44099, NOAA-NA-79AA-D-00120

Note—37p. For related documents, see SE 035

140-155 and ED 179 352-358 Prepared in collaboration with the Ohio Sea Grant Profram

laboration with the Ohio Sea Grant Program

Available from—Ohio Sea Grant Education Office. 283 Arps Hall. Ohio State Linty, 1945 N High St., Columbus, OH 43210 (S1 00 plus 51 00 per

order for shiPPing).
Pub Type— Guides · Classtoom · Learner (051) ·

Pub Type—Guides · Classtoom · Leamer (051) —
Guides · Classroom · Teacher (052)
EDRS Price · Mt 01 'PC02 Plus Postage.
Descriptors—Chemical Industry. Ecology, "Environmental Education. Fisheries, Health Education. Public Health, Science Course Improvement Projects, "Science Education, Secondary Education. *Water Pollution

Identifiers—Great Lakes. *Oceanic Education Activities Great Lakes Schools. Ono Sea Grant Program. *Polychlomated Biphenyls in this secondary school unit. students investigate

the health effects and methods for controlling polychlorinated biphenyls (PCBs). The tescher's manual contains a misterials list, objectives, teaching strategies, supplementary information on PCBs, and answers to questions included in the accompanying student workbook. Activities presented include a teacher demonstration of dilution. 3 study of PCBs in Lake Eric white bass, and a simulation centered around policies for regulating the use of con-taminated fish. (Author, WB)

ED 207 858

SE 035 780

Clark Richard C. Ed. A Partfolio of Energy Ideas: Science.
Minnesota State Dept. of Education. St. Paul.

Spons Agency—Minnesota State Dept. of Natural Resources. St. Paul. Environmental Education Board.; Minnesota State Energy Agency, St. Paul.

Board.; Minnesota State Energy Agency, St. Paul.
Pub Date—Jan 81

Note—102p.; For related document, see SE 035
781. Contains occasional colored pages which may not reproduce well
Pub Type—Gundes—Classroom—Teacher (052)
EDRS Price—MF01/PC05 Plus Postage.
Descriptors—Activity Units, Conservation Education, "Erfergy, Energy Conservation. Education, "Science Experiments, Secondary Education. "Science Experiments, Secondary Education. "Science Experiments, Secondary Education. "Science Experiments, Secondary Education. "Energy Education
Presented are 10 seience energy education units designed to help students searn how to turn science questions and problems about energy into experi-

questions and problems about energy into experi-ments. Each unit focuses on subject-matter knowlmens, here unit focuses on subject-matter knowledge and on the logic and strategy of scientific problem solving. These teacher-opented materials include an overnew of each unit, background information, grade level and subject area, possible outcomes, teacher notes leaching strategies, follow-up activities, evaluation questions, resource materials, and other useful information. While some activities are appropriate for use in all or several junior or senior high science classes, others are more specific to one or two such as earth science, Physical science, or Physics Among the topics included are solid state physics, insulative properties, hot versus cold experiments, winter safety, energy cells, differential thermal expansion, thermal patterns, solar energy, and heat transfer. (DC)

ED 210 172 SE 035 857 Site and Watershed Mapping. Institute for Environmental Education, Cleveland, Ohio.

Pub Date

Note-33p.; Contains occasional marginal legibil-

fly.

Pub Type— Guides - Classroom - Teacher (052)

EDRS Price - MF01/PC02 Plus Portage.

Descriptors— Audiovisual Aids, *Environmental Education, High Schools, *Instructional Materials, Maps, *Map Skills, Physical Sciences, *Science Activities, Science Education, *Secondary School Science, Topography, Water Revources

Identifiers—Compass Reading. Topographic Maps
Presented as part of a larger unit on watershed investigations are a slideshow script and a map and compass unit intended to help high school students better visualize the telationship between a water/ sampling site, the entire stream, community, and watershed. The script discusses features of a topo-graphical map, shows how to read one, and demonatrates several mapping exercises involving mapping tables, chnometers, photo maps, and topographical models. Part two elaborates on the topographical map information presented in the slideshow. Also discussed are compasses and how to use them. Several map and compass exercises are included. Appendices provide information for purchasing compasses and leaching aids. (DC)

ED 216 927

SE 038 131

ED 216 927 SE 038 131

Storrer, Edward C. Jia. Quake Estate (board Rame). Crustal Evolution Education Project. Teacher's Guide [and] Student Investigation.

National Association of Geology Teachers.

Spots Agency—National Science Foundation,
Washington, D.C.

Report No.—CEEP-MOD-CA18-4-1. ISBN-0-



89873-046-5; ISBN-0-89873-047-3

Pub Date

SED-75-20151; SED-77-08539; SED-78-Grant-25104

Note—43p.

Available from—Ward's Natural Science Establishment, Inc., P.O. Box 1712. Rochester, NY 14603 (or P.O. Box 1749. Momercy, CA 93940.)

Pub Type—Guides · Classroom - Learner (051) — Guides · Classroom - Teacher (052)

EDRS Price · MF01 Plus Postage. PC Not Available from EDRS

ble from EDRS.

ble from EDRS.

Descriptors—"Earth Science, Educational Games, Environmental Education, Geology, Instructional Materials, Oceanogtaphy, "Science Activities, "Science Course Improvement Projects, Science Curriculum, Science Education, Science Instruction, Secondary Education, "Secondary School Science, "Scismology, Teaching Guides, Teaching Methods

ing Methods
Identifiers—*Crustal Evolution Education Project.
Earthquakes, National Science Foundation,

Plate Tectonics

Crustal Evolution Education Project (CEEP) modules were designed to. (1) provide students with the methods and results of continuing investigations into the composition, history, and processes of the earth's crust and the application of this knowledge to man's activities and (2) to be used by teachers with little or no previous background in the modern theones of sea-floor spreading, continental drift, and plate tectonies. Each module consists of two booklets, a teacher's guide and student investigation. The teacher's guide contains all of the information present in the student investigation booklet as tion present in the student investigation cookiet as well as: (1) a general introduction. (2) prerequisite student background. (3) objectives, (4) list of required materials, (5) background information. (6) suggested approach, (7) procedure, including number of 45-minute elass periods required: (8) summary questions (with answers), (9) extension activities, and (10) list of telegences, A game approach is used in this module focusing on land investment and development at a sate located at a najor plate boundary (San Andreas Fault) in Calirajor plate boundary (3ah Andreas rauto) in California. Objectives include identifying geologic hazards in an earthquake-prone area, identifying probable effects of these hazards on land and development in the area, and stating measures used to minimize effect of these hazards. (Author/JN)

SE 038 775 essons from an Energy Curriculum for the Senior High Grades, Teacher Guide Indiana High School Energy Units, Energy Education Curriculum Project.

Indiana State Dept. of Commerce, Indianapolis. Energy Group.; Indiana State Dept. of Public Instruction, Indianapolis. Div. of Curriculum. A Spons Agency—Department of Energy, Washington, D.C.

Pub Date—Apr 82 Grant—DE-F645-76CS-60038 Note——75p.: For related documents, see SE 038 776-784.

Pub Type- Guides - Classroom - Teacher (052) -

Pub Type— Guides - Classroom - Teacher (052) —
Reports - Descriptive (142)
EDRS Price - MF01/PC03 Plus Postage.
Descriptors— *Conservation Education, *Energy
Conservation, Environmental Education, High Conservation, Environmental Education, right Schools, "Interdisciplinary Approach, "Learning Activities, Program Descriptions, Science Activities, "Science Curriculum, Science Education, "Secondary School Curriculum, Teaching ties. Science Currieulum, Science Education, Secondary School Curriculum, Teaching Guides. Units of Study Education, Indiana Energy education units (consisting of a general-

teacher's fuide and nine units containing a wide variety of energy lessons, resources, learning aids, and bibliography) were developed for the Indiana Energy Education Program from existing energy education materials. The units were designed to serve as an entire curriculum, resource document. supplementary materials, or as a laboratory manual of "hands-on" activities which could be infused into existing grades 9-12 curricula. This general teacher's guide provides a rauonale for the study of energy education, instructions for using the guide, background information on development of the units, goals/objectives, scope and sequence of the energy education curriculum, summary of the nine units (including unit number and subject area/topic emphasis), unit format, and a matrix indicating how curricula Strategies for infusing/telaung learning to living, achool-wide challenges, lifestyle activities, units/lessons can be incorporated into the existing a wareness activities, sources of selected references and materials, and a bibliography are also provided.
(Author/JN)

SE 038 778 Besons from an Energy Carriculum for the Senior High Grades, Unit III - Energy: Food Produc-tion and Preparation (Energy Use and Conserva-tion). Energy Education Carriculum Project.

Indiana State Dept. of Commerce, Indianapolis. En-ergy Group.; Indiana State Dept. of Public In-atruction, Indianapolis. Dev. of Curriculum. Spons Agency-Department of Energy, Washington, D.C.

Pub Dite—Jan 82 Grant—DE-F645-76CS-60038 Note—42P; For related documents, see SE Q38 775-784.

Pub Type— Guides • Classroom • Teacher (052) EURS Price • MF01/PC02 Plus Postage. Descriptors— *Conservation Education, Educa-tional Games, * Electrical Appliances, Energy. "Energy Conservation, Environmental Educa-tion, "Foods Instruction, High Schools, Home Economics, Interdisciplinary Approach, "Learn-ing Activities, Science Activities, Science Cur-riculum, Science Education, "Secondary School Curriculum, Teaching Guides, Units of Study Identifiers—"Energy Education, Food Production, Indiates

Energy education units (consisting of a general teacher) guide and nine units containing a wide variety of energy lessons, resources, learning aids, and bibliography) were developed for the Indiana Energy Education Program from existing energy education materials. The units were designed to serve as an entire curriculum, resource document, supplementary materials, or as a laboratory manual of "hands-on" activities which could be infused into existing grades 9-12 curricula. Unit III, focusing on energy related to food production and preparation, constits of an introduction (rationale, unit objectives, and general background information), four lessons, unit resources, bibliography, and teacher evaluation form. Each lesson includes lesson title, objectives, background information, activities, evaluation techniques, and resources. Titles of lessons are: (I) Energy Use and Energy Conservation in the Home (Home Energy Game), (2) Energy Consumption in Food Preparation and Production; (3) Food Preparation and Energy Conservation Techniques: and (4) Oven Use and Energy Con-sumption. (Author/JN)

ED 219 273 SE 038 780 Lessons from an Energy Curriculum for the Senior High Grades. Unit V - Energy and Agriculture.

Energy Education Curriculum Project.
Indiana State Dept. of Commerce, Indianapolis. Energy Group.; Indiana State Dept. of Public Instruction, Indianapolis. Div. of Curriculum.
Spons Agency—Department of Energy, Washington Def.

ton, D.C.

Pub Date-Oct 81 Grant-DE-F645-76CS-60038

-47p.; For related documents, see SE 038 775.784.

Pub Type— Guides - Classroom - Teacher (052) EDRS.Price - MF01/PC02 Plus Postage. Descriptors—* Agricultural Production, *Agriculture, *Conservation Education. Energy, *Energy Conservation, Environmental Education, High

Conservation, Environmental Conservation, Schools, Interdisciplinary Approach, *Learning Science Cur-

ocnoos, interdisciplinary Approach, "Learning Activities, Science Activities, Science Curriculum, Science Education, "Secondary School Curriculum, Teaching Guides, Units of Study Identifiers—"Energy Education, Iodiana Energy education units (constaining of a general teacher's guide and nine units containing a wade variety of energy Jessons, resources, learning aids, and highography, ware developed for the Indiana. and bibliography) were developed for the Indiana Energy Education Program from existing energy education materials. The units were designed to serve as an entire curneulum, resource document serve as an entire entire terminal resolute document, aupplementary materials, or as a laboratory manual of "cands-on" setuvities which could be infused into existing grades 9-12 curricula. Unit V. focusing on energy and agnetifiare, consists of an introduction frationale, unit Objective, and general background information), one icsson, unit resources, bibliograpay, and teacher evaluation form. The lesson (Energy Conservation on the Farm) includes objectives. bacaground information, seven student activities. resources, evaluation techniques, and transparency masters. (Author/JN)

ED 219 274 SE 038 781 Lamons from an Energy Curriculum for the Senior High Grades. Unit VI - Fossil Fuels and Energy Alternatives (Solar, Coul). Energy Education

Curriculum Project. Inciana State Dept. of Commerce. Indianapolis. Eneray Group.; Indiana State Dept. of Pupire, in-attuction, Indianapolis. Div. of Curriculum

Spons Agency—Department of Energy, Washington, D.C.

Pub Date-Apr 82

Grant—DE-F645-76CS-60038 Note—102p.; For related documents, see SE 038 Note-102 775-784.

Pub Type— Guides - Classroom - Teacher (052)
EDRS Price - MF01/PC05 Plus Postage.
Descriptors— *Coat, *Conservation Education. Energy, *Energy Conservation, Environmental Education, Fuers, Righ Schools, Interdisciplinary Approach, *Learning Activities. Science Activities. nes Science Curnenium, Science Education, "Se-condary School Curnetium, "Solar Radianoa, Teaching Guides, Units of Study Identifers—Alternative Energy Sources, "Energy

Education, Indiana

Energy education units (consisting of a general seacher's guide and nine units containing a wide variety of energy lessons, resources, learning aids, and bibliography) were developed for the Indiana Energy Education Program from existing energy education materials. The units were designed to serve as an entire curriculum, resource document aupplementary materials, or as a laboratory manual of "hands-on" activities which could be infused into existing grades 9-12 curricula. Unit VI. focus on fossu fuers and energy alternatives (solar and coal), consists of an introduction (rationale, unit objectives, and general bacaground miormation, eight "sour lessons," inree "coal lessons," unit resources. biogography, and teacher evaluation form. Each lesson meludes lesson title, Objectives, background information, activities, evaluation techniques, and resources. Titles of solar lessons are (1) All Buildings Are Solar Collectors. (2) The Careboard Carpenter and the Solar Hot Plate. (3) A Green ice House. (4) A Wey Solar Collector, (5) The Sunshme Papers (drawing and designing a solar plate collector), (6) Color Conduction Comparison. (7) Wind Construction of (5) Second Med Collection. Generator; and (8) Sceonti Hand Solar Sources Savorius Rotors. Coal lesson titles are (1) Coal and Energy, (2) Types of Mining and Mines, and (3) Problems with Coal and Solutions. (Author, IN)

ED 219 275 SE 038 782 sons from an Energy Curriculum for the Senior High Grades, Unit VII - Energy Conservation. Energy Education Curriculum Project.

Indiana State Dept. of Commerce, Indianapolis, Energy Group, indiana State Dept. of Public In-aspection, indianapolis. Div. of Curriculum. Spons Agency-Department of Energy, Washing-

Pub Date—Jan 82 Grant—DE-F645-76CS-60038 Note—59p.; For related documents, see SE 038 775-784.

Pub Type—Guides - Classroom - Teacher (052) EDRS Price - MF01/PC03 Plm Postage, Descriptors—*Conservation Education, Energy.

*Energy Conservation, Environmental Education. Heating, High Schools, Interdisciplinary Ap-proach, *Learning Activities, *Physical Sciences, Science Activities, Science Curriculum, Science Education, *Secondary School Curriculum, Teaching Guides, Units of Study Identifiers—*Energy Conversion, *Energy Educa-

non, Gasonol, indiana

Energy education units (consusting of a general teacher's guide and nine units containing a wide variety of energy lessons, resources, tearning aids. and bibliography) were developed for the indiana Energy Education Program from existing energy education materials. The units were designed to serve as an entire curriculum, resource document, aupplementary materials for as a laboratory manual "hands-on" activities which could be infused into existing grades 9-12 curricula Unit 11, focusing on energy conversions, consists of an introduction fra-tionale, unit objective, and general background information), 10 activities, materials list for first 4 lessons, bibliography, and teaener evaluation form Each lesson includes resson title, objectives, background information, activities, evaluation techniques, and resources. Titles of lessons are (1) Calones for Heating Our Homes, the Cost of Heat-

ing; (2) Do We Know the Hest Produced Per Unit of Measure? (3) Measuring to ing; (2) Do We Know the Heat Produced Per Unit of Measure? (3) Measuring Heat Transfer. The Lalorie; (4) Kilowatt-Hours, Calories, and BTU's; (3) The Most Economical Home Heat Source; (6) Construction of a Hydroelectric Generator; (7) Heat Exchangers; (8) Moonstine Trave; Sunshine Solutions (Gasohol); (9) Seeing Dust as a Fuci; and (10) Pedal Power. (Author/3N)

ED 219 276 ED 219 276

Lessons from an Energy Curriculum for the Senior High Grades. Unit VIII - Energy Measurement. Energy Education Curriculum Project. Indiana State Dept. of Commerce, Indianapolis. Energy Group.; Indiana State Dept. of Pubnic Instruction. Indianapolis. Div. of Curriculum. Spons Agency—Department of Energy, Washington. D.C.

Pub Date—Apr 82

Grant—DE-F643-76CS-60038

Note—34P.; For related documents, see SE 038 773-784.

Note-34p. 775-784.

Pub Type—Guides - Classroom - Teacher (052)
EDRS Price - MF01/PC02 Plus Postage,
Descriptors—Building Design, *Conservation
Education, Energy, *Energy Conservation, Education Education, Energy, Energy Conservation, Envi-toamental Education, High Schools, Interdiscipti-nary Approach, *Learning Activities, *Physical Sciences Science Activities, Science Curriculum, Science Education, *Secondary School Cur-riculum, Teaching Guides, Units of Study Identifiers—Energy Education, Indiana, Thermo-stats

SIEU

Energy education units (consisting of a general teacher's guide and nine units containing a wide variety of energy lessons, resources, learning aids, and bibliography) were developed for the Indiana Energy Education Program from existing energy education materials. The units were designed to serve as an entite curriculum, resource document, serve as an entire curriculum, resource document, supplementary materials, or as a liboratory manual of "nanda-on" activities which could be infused into existing grades 9-12 curricula. Unit VIII. focusing on energy measurement, consists of an introduction (rationale, unit objectives, general background in-(rationale, unit objectives, general background information), three lessoas, bibiography, and teacher
evaluation form. Each lesson includes lesson fulc.
objectives, background information, activities,
evaluation techniques, and resources. Tities of lessons are: (1) The Bimetallie Robot (2) Make
Room(s) for Energy; and (3) A Do-li-Yourself
Home insulation Test. Students design, construct,
and test their own thermostus in the first lesson,
design and draw a house using energy conserving
and energy conscious approaches in the second lesson, and complete an insulation attitut in the third son, and complete an insulation audit in the third lesson. (Author/JN)

Elementary/Middle/Secondary

SE 007, 637

Conservation Touls for Educators. Department of Agriculture, Washington, D.C.

Forest Service Pub Date 68

Note - 79p

EDRS Price MF-50.50 HC-54.05

Descriptors— *Conservation Education, Course Content, *Elementary School Science, In-tegrated Curriculum, Opidoor Education, Resource Materials, *Secondary School Science Teacher Workshops, *Teaching Gordes

included are suggestions for integrating conserepordinating outdoor work with instant activities and for planning and implementing a sequential enniervation curriculum Guidelines given for training of teachers include sample workshop schedules. Minimum requirements for outdoor's school sites are noted. Charts are given listing sunservation concepts with appropriate grade levels, and, for elementary grades, subject areas in which the concept can be stressed time arts, sciences social studies language arts, or mathematics. Suggestions his classroom approaches and presentations include a chart of grade level, ctudent growth characteristics, and major science cunject matter considered appropriate. Notes are given on subject matter for classroom presenta-tion. Several sample high school conscreation course outlines are included, and also a bibliography of some consertation teaching materials (EBi

ED 061 058 SE 013 371 Nitrate Water Activities, Science Study Aid No. 4.
Agricultural Research Service (DOA), Washington, D C

hb Date Jan 72

ote-12p, revised
Available from-Superintendent of Documents. Government Printing Office, Washington, D.C. 20402 (\$0.15, 0-481.766-16)

EDRS Price MF-S0.65 HC-\$3.29

Descriptors— *Elementary School Science, En-vironmental Education, *Experiments, *In-structional Materials, Plant Science, *Secondary School Science, Soil Science, Student Pro-jects, "Water Politiuon Control, Water jects, *1 Resources

intended to supplement a regular program, this pamphlet provides background information, re-lated activities, and suggestions for other activities on the subject of nitrate as a water pollutant Two activities related to plant nutrient pollution. nitrate filtration and measuring mitrate used by plants, are explained in detail, outlining objeclives, materials required, procedure, and questions. The third part of this Science Study Aid describes a technique for measuring the amount of nitrate in water, and the amount necessary to carry out the two activities A vocabulary list and bibliography are included together with diagrams and space for taking notes (BL)

ED 062 122

SE 013 497

Dunbar, Artice

Testing for Air Pollution.
Agricultural Research Service (DOA), Washing-

Pub Date Jan 72

Note—Bp. Science Study Aid No. 5 Available from - Superintendent of Documents, U.S. Government Printing Office, Washington, 20402 (Stock Number 0100-1619.

EDRS Price MF-S0.6S HC-\$3.29

Descriptors - Air Pollution Control. Elementary School Science, Environmental Education. *Experiments, *Instructional Materials, Secondary School Science, Student Projects. *Teaching Guides

Three experiments are presented in this Science Study Aid to provide the teacher with some fundamental air pollution activities. The first experiment involved particulates, the second deals with microorganisms, and the third looks at

gases in the atmosphere. Each activity outlines introductory information, objectives, materials required, procedure to follow, and discussion questions. Space is provided for completing charts and graphs and taking notes. This study and is not intended to be a complete teaching unit, rather, a supplement to a regular program providing up-to-date, research related activities.

ED 063 111

SE 013 524

Boyer, Robert E. How to Study the Earth From Space.

National Science Teachers Association. Washing-

ton, D.C. Pub Date 71 Note - 12p.

Note—14p.
Available: from—NSTA. 1201 16th Street NW.
Washington. D.C. 20036 (Stock No. 47112624, S0.50)
EDRS Frice MF-20.63 HC Not Available from

EDRS.

Descriptors—"Aerospace Education. Aerospace Technology. "Earth Science. Environment. "Environmental Education. Environmental Research, "Natural Resources. "Photography, Pollution, Resource Materials

Identifiers-National Science Teachers Associa-

This booklet is one in a series of instructional aids designed for use by elementary and secondary school science teachers. It reviews how the various forms of remote sensing can provide invaluable knowledge about the earth as the need for environmental information continues to increase. Remote sensing involves space photography, infrared imagery, and radar imagery, all of which are discussed and represented by example photographs made by these techniques. Nearly 60 uses of remote sensing are listed, including the detection of plant disease, weather studies and predictions, detection of air pollution, water pollution, thermal pollution, and the locating of water and energy resources. An annotated list of resource materials is provided, (PR)

ED 080 361

SE 016 614

Bergher, John F . Ed And. Others A Curriculum Activities Guide to Water Quality Equipment and Environmental Studies.

Project KARE, Blue Bell, Pa Spons Agency—Office of Education (DHEW),
Washington, DC Office of Environmental Education

Pun Date 73 Grant-OEG-0-72-5105

Note -- 182p

Available from a tostitute for Environmental Edu. cuting, 8911 Euclid Avenue, Cleveland, Ohio

EDRS Price NF-\$0.65 HC-\$6.58

Descriptors— *Construction (Process). Currieu-ium Guides *Elementary Grades. *Formonmental Education. *I quipment Instructional Materials. Learning Activities. *Mraiurement Instruments. Secondary Grades. Testing. *Water Resources.

This book is the third in a series of four books emphasizing student-oriented problem solving relased to environmental matters in property conducted environmental lovest-gailling it is felt stu-dents with persons the need th extend their sensee by using instauments. The instrumentation as presented in this guide should and students in this respirit. Chapter I affers construction plans for 23 picers of water quality testing equipment insluded for each are an introduction to the item. materials and thick needed, procedure for construction, directions for using it, problems en-countered, and, a highingraphy Basic, intermediate, and advanced water quality kite and systems which can investigate four major water quality & parameters, physical chemical, macribiological, and noternhological factors, are Uncount in Chapter 2. Water quality equipment is listed in Chapter 3 for incaspring decises sesentific equipment, toute, resource materials. supplies, sontainers, and glass and miscellancious stems bach table identifies the item, use area, thinlogy, chemistry, physical, topic area, range of user, and local source to obtain it. How and where to get needed items are dealt with in the linut chapter. Related documents are SF 016 524 and Sh 416 525 (BL)

ED 101 937 95 SE 017 399 Energy and You. Environmental Education Cur-

Topeka Public Schools, Kans.
Spons Agency...Bureau of Elementary and
Secondary Education (DHEW/OE), Washing. ton, D.C.

Pub Date Jan 7ª Note - 70p.

Price MF-\$0.76 HC.\$3.32 PLUS POSTAGE

Desenptors-*Conservation Education, Curricu. fum Guides, *Educable Mentally Handicapped, *Energy, Energy Conservation, *Environmental Education, Instructional Materials, Learning Activities, Natural Resources, Outdoor Educa-tion. *Science Education, Teaching Guides, Units of Study (Subject Fields)

Identifiers-Elementary Secondary Education Act

Title III. ESEA Trite iii

The causes of the energy ensis are many, and the solutions are complex. Since every person in the world is affected excry person should have an understanding of the energy shortage problem. This unit is designed around the following two ideas (1) to develop an understanding of energy and the need for it, and (2) to understand some of the causes, effects, and solutions of the energy ensis It attempts to present information regard. ing energy problems for level II and III educable mentally retarded students. Included are four topics (1) What Is Energy, (2) Energy Fuels, (3) How We Use Energy, and (4) Conservation of Energy For each topic there are behavioral objectives, student activities, and teacher suggestions. The numbers in parentheses by the activity number indicate the objectives the activity helps develop. The unit also includes goals and objectives, an objective summary sheet, a unit time line, a materials sheet, and 20 appendixes which contain various teaching aids related to the activities and which are also suitable for duplication. (TKI

ED 103 234 SE 018 515 Change in a Small Ecosystem, An Environmental Investigation.

Minnesota Environmental Sciences Foundation. inc., Minneapolis, National Wildlife Federa.

Pub Date 72

Note-25p., Related documents are SE 018 514. 534 Available from-National Wildlife Federation,

1412 16th Street, N.W., Washington, D.C. 20036 (Order No. 79187, \$1.50) DRS Price MF-50.76 HC-51.58 PLUS EDRS

POSTAGE

Desemptors-*Ecology, Elementary Grades. *En. vironmental Education, Instructional Majerials, Intermediate Grades, Investigations, Junior High Schools, *Learning Activities, *Science Education, Secondáry Grades, Teaching Guides Identifiers — Écosystems

this environmental unit is one of a series designed for integration within an existing cur. rivolum it is self-contained and students are en-couraged to work at their own speed. The Philosophy behind the series is based or an ex-genence-triented process that promotes independent student work. This particular unit explores the concept of succession in communities. The activities included develop the major concept by requiring students to set up small aquana and to observe the changes that take place in these small communities. Sampling and population prediction . techniques are included in the activities. Tracher information conscrains background information, materists, and additional rupits is given. This unit is designed for students, grades 5.9 A short bibliography is included (MA)



ED 103 250 SE 018 531 Soli, An Environmental Investigation.

Minnesota Environmental Sciences Foundation. Inc., Minneapolis., National Wildlife Federauon, Washington, D. C.

Pub Date 72 Note = 21p , Related documents are SE 018 514-534

Available from...National Wildlife Federation, 1412, 16th Street, N.W., Washington, D.C. 20036 (Order No. 79132, \$1.50)

EDRS Price MF-\$0.76 HC-\$1.58 PLUS

POSTAGE

Descriptors — * Ecology, Elementary Grades, Ele-mentary Secondary Education, *Environmental Education, Instructional Materials, Investiga-tions, "Learning Activities, Natural Resources, Outdoor Education, "Science Education, Secondary Grades, "Teaching Guides Identifiers—"Soil

This environmental unit is one of a terres designed for integration within an easting curreculum. The unit is self-contained and requires minimal teacher preparation. The philosophy of the series it based on an experience-oriented process that encourages self-paced independent student work. This parsiculat unit investigates soil in relation to acidity, moisture, minerals, and or-gamisms. Stodents in grades 2-9 can discover how these factors are interrelated and what effects they have on the soil through the activities included in the unit Techniques for determining soil pH with litmus paper and the presence of soil nutraies with test kits are included. Also, students make a sample of organisms in the soil with the help of a Berlese funnel Each activity includes a list of the materials needed and where they can be found, background information, directions. and questions for discussion. (MA)

EP 119 964 88 SE 020 016 Mad a Impact on the Environment: The Estuncy as an Echsystem, Lipdate, Breward Chicha, Pla Spons gency—Bureau of Elementary and Segundary Education (DHEW/OEIR Washington)

w.A. D.C

Date 1751

Nate-106p . For the pilot Test Edition, see ED 106 077 Related documents are \$8,020 014-017. Newspaper examples may reproduce marginally

EDRS Peice MF-50.83 HC-56.01 Plus Postage

Descriptors-Conservation Education Evology, Environmental Education, Instructional Materials, Learning Activities Science Educa-tion, Science Materials Tearning Guides Identifiers—Elementary Secondary Education Act Title III, FSEA (ate III

emphasizes the eause and effect of change in an celuary ecosystem with special attention given to man and his role in environmental change. Concopis are employed from the natural and specal sciences to investigate environmental problems The units are designed around these questions (1) What is an ecosystem? (2) What is a description of the ecosystem being investigated?, (3) What are some of the builts and absorte reasures of the consystem and/how do these leadures interrelate?; (4) Where are some specific locations of the ecosystem being investigated?; (5) What bjotte and abilitie features in the consystem have changed and are underguing change (. 6) What are the natural factors causing change in the ecosystem and how have they been brought about?. (7) What are the mon-made factors causing change in the ecosystem and how top'e they been brought about? (8) What are the results of the changes. (9) What, if any, new changes are needed in the ecosystem?, and (10) How might these needed changes to the ecosystem be brought about. The units are inquity oriented and contain learning activities, reinurees, evaluation techniques, and teacher suggestions on im-plementation of the program Readings, maps, and other handouts are given for learnet use-(Author, NR)

ED 119 965 38 SE 020 017 Man's Impact on the Enviconment: The Freshweter Morsh as an Ecosystem. Lpdate. Brevard County School Board, Cocoa, Fla Spons Agents -Bureau of Elementary

Secondary Education (DHEW/OE), Washington, D C Pub Date [75]

Note 18th For the Pilot Test Edition, see ED 106 078 Related documents are SE 020 0L4. Maps and charts may reproduce marginaliv

Available from ... The slides described in the abstract are available from ERIC/SMEAC. Obio State University, 1200 Chambers Road, 3rd Floot, Columbus, Ohio 43212 ion Ioan)

EDRS Price MF-SO 83 HC-S 10.03 Plus Pottage Descriptore-Contervation Education. *Ecology, · Environmenta' Education. *Instructional Materials. Leafning Activities. Science Juca-

Identifiers-Elementaty Secondary Education Act

Tole III. ESEA Title III

This coviconmental education emphasizes the eaute and effect of change in a freshwater marsh ecosystem with special attention given to man and his role in enviconmental change Concepts are employed from the natutal and social sciences to investigate environmental problems. Unit activities are inquiry oriented and answer these questions (1) What is an ecosystem', (2) What is a desception of the ecessstem being investigated'. (3) What are some of the biotic and abiotic features of the ecosystem and how do these features interrelate?, (4) Where are some specific locations of the ecosystem being investigated?, (5) What biotic and adiotic features in the ecosystem have changed and are undergoing change?. (6) What are the natural factors causing change in the about?, (7) What are the man-made factors cousing change in the erosystem and how have they been brought about? (8) What are the results of the changes?, (9) What, if any, new changes are needed in the ecosystem?, and (TO) How might these needed changes to the ecosystem be brought about? Questions 5-10 are designed into a role playing simulation game. The guide also contains readings, maps, and other handouts. contains readings, maps and other handouts, resources, evaluation techniques, and teacher suggestions for program implementation. Slides with descriptions are included (Author/MR)

SE 020 614 ED 125 885 Energy Conservation, Understanding and Activities for Young People. Federal Energy Administration, Washington, D.C. Report No-FEA-D-75-264 Pub Date 76

Note-24p. Not available in hard copy due to enforce pictures and paragraph headings and shaded charts and graphs. Prepared by Office of Conservation Education

Available from - Superintendent of Documents. L S Government Printing Office, Washington, DC 20402 tStock No. 041-018-00091-7. SO 85)

EDRS Price MF-50.83 Plus Postage, HC Nat Aveilable from EDRS.

Descriptors-Conservation Education. *Elementary Secondary Education, Energy, "Energy Conservation, "Environmental Education, Fuel Consumption "Instructional Materials, "Learn, ing Activities Natural Resources. Science Edu-

This publication on energy emiservation is designed as a resource material for the classitism. divided into three chapters concerning a definition of energy, the conservation of energy, and the uses of energy. For each subscipic within the chapters, there is background information and suggested project topies designed for secundars school students. A brief glussary at the end of the booklet defines some of the energy telated terms used in the test. A short bibliography and a listing of resource people are included at the end.

ED 134 455 ,1 SE 021 929 Selence K-12, Interdependency of Living Things and Living Things With Their Environment. Ulica City School District Articulated Curriculum: Project SEARCH, 1975.

Unea City School District, N.Y.

Spons Agency—Bureau of Elementary and
Secondary Education (DHEW/OE), Washington, D'C

Pub Date 75

Note-45p.: For related documents, see SE 021 926-931. Not available in hard copy due to

marginal legibility of original document EDRS Price MF-S0.83 Plus Postage. HC Not Available from EDRS. Descriptors - Biology. *Corncolom* Guides

Ecology. Educational Objectives. *Elementary School Science. "Elementary Secondary Edu-cation, First Aid, Health Education, Integrated Curriculum, Physical Sciences, "Science Edueation, *Secondary School Science

Identifiers-Elementary Secondary Education Act

Two-column objectives are listed for an integrated science curriculum (grades K-12), often subheaded according to science area (biology, physical science), and grade level Choices of envitonmental topics such as weather, conservation of natural resources, and the interdependence of organisms and environment dominate objectives written for grades K-6. Food webs, ecological community structure, and interactions between organisms are written for grade 7 objectives. Also listed for grade 7 are several objectives for first aid and the study of algae and protozoans. One space science objective is written for grade 8. Grade 9 includes varied biological topics, including microbiology, locomotion, behavior, germination of seeds, and forest-conservation. Biology (grades 10-12), physical science (grades 10-11) and advanced biology (grade 12) include ecologiand advanced biology tgrade 121 include ecological cal topics such as population growth, ecological systems, pollutants (natural and manimade), ecotogical communities, and duccession inter-spersed in grades 10-12 are objectives written for the study of classification (grade 10), and higher plants, reproduction and development in animals, and structure and function in animal systems (grade (2) (CS)

ED 157 681 SE 022 840

Tully, Randolph R . Jr., Ed A Curriculum Acitelties Guide to Electric Power

Generation and the Environment. Project KARE, Blue Belt, pa.

Spons Agency—Office of Education (DHEW);
Washington, D.C.
Pub Date 75

Washington, D.C.
Pub Date 75
Grant—OEG-71-1775
Note—154p.: For related documents, see SE 022 841.842

Available from Project KARE, Colony Office Bldg, Route 73 & Builer Pike, Blue Bell, Pa. 19422 (no price quoted) EDRS Pelec MF-S0.83 HC-56.69 Plus Postage...

Descriptors—Curreculum Guides. Elementary Secondary I ducation. Specify Conservation. Environmental Education. Instructional Materials, Learning Activities, Natural Resources. Seience Activities Science Educa-

tion, Teacher Developed Mateeurs, Values Identifiers... Project KARF

in a workshop on "Electric Power Genetation and the Environment." Activity topics are: (1) and the Environment." Activity topics are: (1) Energy and the Consumer. (2) Energy and Water Pollution, and (3) Energy and Air Bollution. Within these topics, the activities are classified as awareness level, transitional level, or operational level. Each activity contains an introduction, questions, equippient lat, and procedure. These Activity topics ares (1) the over 70 activities for students in grades 1/22. The appendix provides a strict description of the development of the learning activities in this guide. (MA)

SE; 029 042 ED 160 418 Gerlovith, Jock A

Egergy Concepts in the Iowa School Cyrneulum. Iowa Stale Dept of Public Instruction. Des Moines Die of Curriculum Div of Curroulum
Pub Date—Oct.78
Note—12p.
EDRS Price MF-50.83*1[C-52.06, Plus Postage.

Descriptors—Conservation (Fig. konnert) *Curreclum* Descriptoent Elémentary Secondary
Education. *Energy Energy Connervation.
Program Descriptions . Sector Activities. Science Education Identifiers - lowa

This document reports on the laws Department of Public Instruction plan to integrate energy education into elementary and accountary programs. This, plan includes the development of energy sensors attom actualty packets. The packets company yearcty

of interdisciplinary activities, accompanying work-sheets, visuals, and annotated children and teacher bibliographies for grades K-6 Also included in the plan is the Vankato State University Energy Pro-gram which is designed to acquain teachers with gram which'ss designed to acquain teachers with some classroom projects that can be done by students in grades 7-12, and give teachers an extended classroom project in which students evaluate the energy consumption of their school. Finally, this report presents the results of a questionnaire designed to assess the present energy programs and perceived energy needs of lowa secondary school teachers. The dominant concerns of the teachers surveyed were energy conservation and the political surveyed were energy conservation and the political and social aspects of energy problems (BB)

SE 025 192 Energy Conservation Activities for the Classroom

Kentucky Dept of Energy, Frankfort,; Kentucky State Dept, of Education, Frankfort. Pub Date-[78]

Note-244p

EDRS Price MF-\$0,83 HC-\$12.71 Plus Postage.
Descriptors—"Conservation Education. C Descriptors—"Conservation Education, Curticulum Guides, Elementary Secondary Education, "Energy Conservation, "Environmental Education, "Learning Activities, "Science Activities,"

ties. Science Education, Teaching Guides
After a binef introduction entitled "Where Does
the Euergy We Use Come From," this unit presents
86 activities Each activity gives the title, concept,
objectives, subjectiarea, level, time involved, materials needed, procedures, and related eareer activities Topies cover everything from housing insulation to alternate sources of energy to energy use by appliances and automobiles. The activities include game playing, science experiments, surveys, field trips, and others. The unit concludes with a bibliography. ٠̈́, (BB)

ED 167 393 SE 026 774
Gammuch, Susan C. Lanier, James A.3
Guide to the Marine Education Materials System
(MEMS), Educational Series No. 22,
Virginia Inst. of Manne Science, Glouvester Point.

Spons Agency—National Oceanic and Atmos-pheric Administration (DOC). Rockville, Md. Pub Date—78

Note—141p. Not available in haid copy due to copyright restrictions. Colored pages may not reproduce well. Microfiche containing Author Index and Grade Level Index deleted
Pub Type— 'Guides - General (050) — Collected
Works - Serials (022)
EDRS Price MF-50.83 Plus Postage. HC Not

Available from EDRS.
Descriptors—Automatic Indexing. Curriculum.
Curriculum Enrichment. *Elementary Secondary
Education. *Information Systems. *Instructional
Materials. *Marine Biológy. *Occanology. Science Education

Identifiers- Manne Education, Sea Grant

This guidebook has been Prepared to orient persons wishing to use the Marine Education Materials System (MEMS), a project supported by the Office of Sea Gran, National Oceanie and Atmospheric Administration (NOAA). Department of Com-merce. Entries to the system were compiled by the education staff of the Varginia Institute of Manne Science Information in the Guidebook emissis of ongoing list of the publications entered, an index of descriptors and listings of entries by author and grade level in addition to a Preface and introductory section, other sections are (1) How to Use the tory section, other sections are (1) How to Use the System (2) Explanation of Notations (3) Sample Entries. (4) Types of Documents Included in MEMS, (5) Abbieviations, (6) Distribution Centers, (7) Thesaurus of Descriptors, (8) Descriptors. Accession Numbers; and (9) Listing of Available Entries by Accession Numbers An author index and grade-level index are also included. (PEB)

ED 167 398 - SE 026 777 S.T.E.R. in Bay County. The Rutherford Project. Florida State Dept of Education Tallahassee. Office of Environment Education. Pub Date--76

Pub Date.—76
Note.—45p. Not available in hard copy due to marginal legibility of original document
Pub Type.— Reports - Descriptive (141) — Guides
Classfoom - Teacher (052)
EDRS Price MF-50.83 Plus Portage. HC Not

Descriptors-*Elementary Secondary Education. *Environmental Education, Instructional Materials, Learning Activities, *Program Evaluation, *Science Activities, Science Education, Student Attitudes

This document presents an explanation, illustration, and evaluation of a Students Toward Environ-mental Panicipation (S.T.E.P.) Project at Rutherford High School in Bay County, Flonda. The main objective of this S.T.E.P. Project was to train high school students to teach environmental awareness activities to elementary students. This booklet includes environmental activities, fieldtested eco-dramas, and sample evaluations from ele-mentary and junior high school students. The activities are interdisciplinary and include a purpose, materials list, and procedure description (MA)

BD 170 135 SE 027 582 Interdependence: A Handbook for Environmental Education,

National Association of Independent Schools, Boston. Mass

Note—Feb 79
Note—Feb 79
Note—Fip: Not available in hard copy due to copyright restrictions

Available from—National Association of Independent Schools, 4 Liberty Square, Boston, Massachusetts 02109 (\$4.00)

Pub Type— Reports · Descriptive (141) EDRS Price · MF0t Plus Postage, PC Not Available from EDRS.

Descriptors—Conservation Education, Curriculum, *Educational Programs, *Educational Resources, *Elementary Secondary Education, *Environmental Education, Instructional Materials, *Program Descriptions, *Science Education, Summer Programs, Surveys

The document includes several sections dealing

with environmental education The first section presents a brief description of courses or programs in cuviroumental education offered by schools belong-ing to National Association of Independent Schools (NAIS) A second section presents expanded de-scriptions of 9 selected environmental Programs. The third section describes summer opportunities in environmeural education for teachers and students A fourth section presents an annotated bibliography of selected textbooks in environmental education. The fifth section is a bibliography arranged by topics of interest to environmental educators. An appendix presents the questionnaire used to gather informa-tion on environmental education aetivities undertaken by NAIS member schools (RE)

ED 175 725 'SE '028 808 End 118 118 118

Brown Mark And Others

Endangered Species, Teacher's Guide.

Florida Audubon Society, Maintend.

Spons Agency—Office of Education (DHEW),

Washington, D. C. Office of Environmental Edu-

cation.

Grant—GOO7407881 Note—29p.: For related documents, see SE 028 807-810

Note—29p.: For retained 297-810
807-810
Pub Type— Guides - Classroom - Learner (051) .
EDRS Price - MF01/PC02 Plus Postage.
Descriptors—Botany. "Conservation (Environment). "Ecology. Elementary Secondary" Education. "Environmental Education.
"Environmental Influences. "Natural Resources, Science Education. "Wildlife Management,

Identifiers-- Endangered Species, Florida

This unit is intended to examine the causes of the endangerment of Florida's plantand animal species with a detailed look at varied ecological systems, individual lessons are designed to be used either by individual students progressing at their own rate or by small groups. Units may be modified for use by large groups. (Author/RE)

SE 028 430 ED 176 960 Jones, Sam P. Muffest, Bryan R.

Environmental Education Curriculum Guide, Grades K-12. Revised Eduion.

Somerset Board of Education, Ky.
Spons Agency - Kert Spons Agency—Kentucky State Dept. of Educa-tion, Frankfort. Office of Communication Services.; Office of Education (DHEW), Washington, D.C.

Pub Date-7a Note-210p,

Ayailable from-Kentucky Information Dissemina-

tion System. Office of Communication Services. Kentucky Department of Education, Frankfort. KY 40601 (no price quoted)

Pub Type- Guider . Classroom . Teacher (052) EDRS Price - MF01/PC09 Plus Postake.

Descriptors—Air Pollution Control. *Conservation Education. Earth Science. *Elementary Secondary Education. Energy Conservation. Environ-*Environmental Education, Fiel ation. *Interdisciplinary Approach. ກວິດພ Consumption. *Natural Resources. *Outdoor Education, Poudnon, Science Education, Water Poliution Control, Water Resources

This guide contains Over 80 class activities covering numerous concepts of environment. The guide is divided into two sections. The first section con-tains activities applicable to elementary school classes. The second section includes activities useful in high school classes and is subdivided into subject areas targeted by the activity Each activity throughout the guide includes grade level concepts, performance objectives, activities, additional resources and references, and an evaluation checklist.

ED 179 352 SE 028 768 Meinke James D. Kennedy, Beth A.
The Effect of Lake Eric on Ohio's Temperature,
Student Guide and Teacher Guide, OEAGLS

investigation 1. Ohio State Univ. Columbus. Research Foundation. Spons Agency—National Oceanic and Atmosphere Administration (DOC), Rockville, Md.

Pub Date-Feb 79

Note—22p.. For telated documents, see \$E 028 769-774, Prepared in collaboration with the Ohio Sea Grant Program

Sea Grant Program
Pub Type— Guides - Classroom - Learner (051) —
Guides - Classroom - Teacher (052) .

EDRS Price - MF01/PC01 Plus Postage.
Descriptors— Earth Science. Elementary School
Science. Environmental Education, *Instructional Materials, Lesson Plans, *Oceanology,
"Science Activities, *Science Course Improvement Programs of the Course Improvement Programs ment Project, Science Curriculum, Science Edu-cation, Serence Instruction, Secondary School Science, Worksheets

Identifiers-Oceanic Education Activ for Great

Lakes Schools, Ohio Sea Grant
This guidebook for teachers is accompanied by a
student workbook. The investigations are intended to offer students an opportunity to learn about the absorption and release of heat energy and its effects on the Earth's atmosphere. The influence of Lake Ene on Ohio's temperature is related to the other investigations. Illustrations, maps, and graphs accompany the written material. (SA)

SE 028 769 Meinke James D. Kennedy. Beth A.

The Effect of Lake Eric on Climate. Student Golde and Tracher Guide. OFAGLS Investigation 2.

Ohio State Univ. Columbus Research Foundation. Spons Agency—National Oceanic and Atmospheric Administration (DOC), Rockville, Md.

phene Administration of the Pub Date—Apr 79
Grant—NOAA-04-8-M-01-170;
Note—22p. For related documents, see SE 028
768-77a; Prepared in collaboration with the Ohio

Sea Grant Program

Pub Type-Guides - Classroom - Learner (051) - Guides - Classroom - Teacher (052) EDRS Price - MF01/PC01 Plus Postage.

Descriptors-Earth Science, Elementary School Science, Elementary Secondary Education, Envitonmental Education, *Instructional Materials, Lesson Plans, *Oceanology, *Science Activities. *Science Course Improvement Project, Science Curriculum, *Science Education, Seience instruction, Secondary School Science, Worksheets

Identifiers-Oceanic Education Activ for Great Lakes Schools, Ohio Ses Grant'

This guidebook for teachers to accompanied by a student workbook. The investigations are intended to offer students an opportunity to study the effects of air temperature on air density and movement, the circulation of air and how it changes the amount of precipitation in the area stound the Great Lakes, and the implications of the "lake effect" for the economy of northern Ohio Illustrations, maps, data tables, and graphs accompany the written material. (Author/SA)

ED 179 443 SO 012'143 A List of Books on the Marine Environment for

Calidrea and for Young People.

Calidrea and for Young People.

Delaware Univ., Newark. Coll. of Education. Delaware Univ.. Newark. Coll. of Marine Studies:

Spons Asency—Du Pont Corp., Wilmington, Del., National Oceanie and Atmospheric Administra-National Oceanic and Atmospheric Administra-tion (DOC), Rockville, Md. National Sea Grant Program.: National Oceanic and Atmospheric Administration (DOC), Rockville, Md. Office of Coastal Zone Management. Office of Education (DHEW), Washington, D.C. Office of Environ-mental Education.

Pub Date-79 Note-69p.: For a telated document, see SO 012 142

Available from-Project COAST, College of Education, University of Delaware, Newark, DE 19711 (\$2.00)

Pub Type— Reference Materials - Bibliographies (131) EDRS Price - MF01 Plus Postage, PC Not Availa-.

ble from EDRS.

Descriptors—"Adolescents, "Childrens Books, Educational Resources, Elementary Secondary Education, Fiction, "Marine Biology, Natural Sciences, "Oceanology, Physical Environment,

Sciences, Oceanology, Physical Environment, Physical Geography
This annotated hibliography lists approximately
900 books on the marine environment most of which are in the collection of the University of Delaware's Project COAST (Coastal and Oceanie Awareness Studies). A majority of the books, which include both fiction and nonfiction, were published within the last twenty years. Although the document is divided in two sections. Children's Books and Young People's Books, the sections overlap and both should be considered in selecting books for each age group. Entries within the two sections are arranged alphabetically by title. (Author/KC)

ED 183 363 1 SE 029 535

Jennings Frederick Metro, Piter M. Ecology for the Exceptional Child.

Rocky River Public Schoots, Ohio.

ppons Agency—Ohio State Dept. of Education.

Columbus Div of Research, Planning, and Evaluation.

Pub Date-Jan 76

Note-203p.: Contains occasional light and brokes

Pub Type- Guides - Classroom - Learner (051) -

Fub type— Oudes - Classroom - Learner (051) —

Guides - Classroom - Teacher (052)

EDRS Price - MF01/PC09 Plus Postage.

Descriptors—Class Activities. Conservation (Environment). "Conservation Education. "Ecology.

Environment. "Environmental Education. "Eaespuonal Chaid Education, Instructional Mater-

ais. Outdoor Education, Science Education, Secondary Education, "Special Education, Wildhie Mansgement

The program contained in this guide is designed to be a student-centered approach to learning. Outimed are activities for large groups, small groups, or individualized study. Activities can be used with atudents of duffering eaceptionalities. Sufficient eurmentures materials are provided for a continuous program over three years. Each activity unit provides a rationale statement, objectives, auggested activities, and detailed instructions for each activity. (Au-

thor/RE)

SE 030 527

ED 184 869

Tarkel, Tux The Maint Teacher's Energy Primer.

Maine Audubon Society, Falmouth. Pub Date - 79

Note-41p. Not available in hard copy us to copyright restrictions

Available from- Maine Audubon Society, Energy Department 118 L S Route One, Falmouth, ME 04105 (55 00, 53 50 12 or more).

Pub Tape- Guides - Classroom - Teacher (052) EDRS Price - MFO! Plus Postane. PC Not Available from EDRS.

Descriptors-*Class Activities, *Curriculum Developmem. Decision Making, Elementary Secondary Education, "Energy, "Energy Conservation, "Environmental Education, Middle Schools," Science Education, Solar Radiation

Identifiers- Energy Education

This guide is intended to serve a two-fold purpose: (1) to familiarize the teacher with the jargon, issues,

and concepts of energy problems, and (2) to assist the teacher in preparing a curriculum dealing with energy lasues. The guide is divided into four chapters (1) energy basics. (2) uses of energy, (3) consercation, and (4) future scenarios. Each section contains background information and activity descriptions. Each chapter is prefaced with a specification of objectives and a glossary of tenns. (RE)

ED 187 629 SO 012 %T3

Curricular Dimensions of Global Education, Pennsylvania state Dept of Education, Harmburg, Research for Better Schoois, Inc., Philadelphia, P۵.

Pub Date-

Note—222p
Pub Type— Guides · Classicoom - Teacher (052) —
Opinion Papers (120) — Information Analyses
(0°0)

EDRS Price - MF01/PC10 Plus Postage.

Descriptors—Art Education, Curriculum Design,
"Curriculum Desciopment, Early Childhood
Education, Educational Environment, "Educa-Lonst Objectives, Elementsey Secondary Educa-tion. Environments: Education, *Global Approach, Health Health Education, "Interdisely punary Approach Mathematics Instruction, Multieuitural Education Nutrition, Nutrition Instruction, School Administration, Science Edu-Number cation Second Language Instruction. Social Studies, "Teaching Methods.
The document discusses the curricular implica-

tions of global studies for teachers of ail subjects and grade leve's emphasizing that the global approach can facilitate the integration of knowledge. The pur-pose is to help educators become aware of the implications that global studies have for their special interests. It is presented in 12 chapters. Chapter I describes a model of an interdisciplinary global stu-dies course. Chapter II presents an overview of glo-bal education in the United States. Chapter III offers ways to integrate sevence, and other etirriculum areas to present a restistie world pieture Chapter IV discusses the implicationa for early Chapter V Occuses the implication variety estillation deducation with special reference to the Year of the Child Chapter V defineates four goals which multipultural education and global studies have in common Chapter VI clarifies the problem of applying arts to global studies Chapter VII recommends action in the area of foreign languages. Chapter, VIII uses a case-history approach to the curricular implications of global education in regard to school administration, structure, and climate. Chapters IX and X present key concepts from the fields of health and nutrition and social studies that Provide the entical issues for global studies. The concluding chapters suggest a vanety of teaching strategies in the areas of mathematics and environmental concerns. (CK)

ED 188 875 SE 031 017 Energy in the Ecos) stem. A Curriculum Guide for Elementary and Secondary Teachers. New Jersey State Dept of En tronmental Protec-

tion. Trenton

Spons Agency - Office of Education (DHEW), Washington, D C Office of Environmental Education

Pub Date-[80] Grant-G007701233

Note-14p. Pub Type- Guides - Classinom - Teacher (052) EDRS Price · MF01/PC01 Plus Postage.
Descriptors—"Ecology, "Elementary Education.

*Energy. *Environmental Goucation. Food. *Natural Resources. *Secondary Education. Wildlife Management

whence Aranagement in several resource management in a way that in lines men as user and manager of these resources. The role of energy in the ecosystemis explained and examined. Ceathing activities are theisided for both elementary and secondary students. The text also includes material for elass discussion, recommended films, and effect. class discussion, recommended films, and refetencea. (SB)

ED 191 746

Do-It-Yourself Guide to: An Energy Seminar.
Construction Plans and Use Guidelines.
Minnesota Regional Environmental Education
Council, Minneapolis; Quarity Hill Nature Center, Rochester, Minn. Pub Date--80 ·

Note-20p.; For related documents, see SE 032

885-887 and ED 178 351. Contains marginal legi-

885-887 and ED 178 351 Contains marginal legibility on "Data Sheet for Teachers Photographs may not reproduce well."

Pub Type— Guides · Classroom - Teacher (052)
EDRS Price · MFOL PCOI Plus Postage.
Descriptors— "Class Activities. Elementary Secondary Education. "Environmental Education. "Environmental Education. "Environmental Education. "Environmental Education. "Environmental Education." "Education." "Environmental Education." "Education." "Education

Ten learning stations containing displays and student activities relating to energy comprise the semi-nar described in this booklet. On a data sheet, each student answered questions based upon information obtained at the learning stations. The guide contains instructions for constructing each exhibit, including a materials list, estimated cost, and a photograph of the completed station. Also provided are an energy quiz and sample student data sneet. A though the seminar was designed for juntor high school partialpants, it has begin used successfully with students in fifthing rade through senior high. Among the topics investigated are insulation (spesifier most at setting, chemically-produced electricity, energy efficiency, and electricity from mechanical energy. (WB)

Do-It-Yourself Guide to: A Habitat Seminar. Con-

atruction Plans and Use Guidelines.
Minnesota Regional Environmental Education
Council Minneapolis, Quarty Hill Nature Center, Rochester, Minn

Pub Date—80
Note—3ap. For related decuments, see SE 032
88a-887 and ED 178 351 Contains occasional broken type. Photographs may not reproduce

well
Pub Type— Guides - Classroom - Teacher (052)
EDRS Price - MF01/PC02 Plus Postage.
Descriptors—Biology, "Class Activities, "Ecology,
Elementary Secondary Education, "Environmental Education," Exhibits, Land Lise, "Nature Centers, Science Instruction, Whichie Management This guide describes the construction and use of 12 fearning stations dealing with habitsis and people's impact upon them. At coun statem, students observe photographs or a mixed and then answer questions on a data sheet based upon the displa-The booklet contains instructions for building each exhibit along with a material, list estimated cost. and a photograph of the completed display. Also provided are background information and questions for teachers to use it follow-up discussions. In addition, a habitat quir and sample student data sheet are included, (WB)

ED 191 748 SE 032 886

Dolts Yourself Guide to: A Land Use Semmar.
Construction Plans and Use Guidelines.
Minnesota Regional Environmenta, Education
Council, Minneapolis, Quarry Hill Nature Center, Rochester, Minn

Pub Date-80

Note-379. For related documents, see SE 032 883.887 and ED 178 351 Photographs may not reproduce well
Pub Type — Guides - Cassroom - Teacher (052)

Pub Type—Gurder - Cassroom - Teacher (052)
EDRS Price - MF01. PC02 Plus Postage.
Descriptors—"Class Authorities Elementary Secondary Education, "Environmental Education,
"Land Use, Nature Certers, "Planning, "Regional Planning, Resource Centers
Presented are 12 learning stations containing dispigas relating to land use "The booklet gives the

necessary information to duplicate she Land Use learning activities. The first section contains working drawings, maintenissis approximate east and a photograph as well as a description of the model. The text of a sign giving directions to the parties Pants is also included. The second section contains all of the Printed mater at including Student Data Sheet, Land Use IQ Q. 2. Land Use IQ Qur Amswer Sheet, and Teacher Data Sheen (Author WB)

Do-It-Yourself Guldr in. A Solid Waste Seminar. Construction Plans and Use Guidelines.

Minnesota Regional Environmental Education Council, Minneapous Quarty Hill Nature Center, Rochester, Minn

Pub Dare -80 Note-26p. For related documents, see SE 032 88a-886 and ED 178 351 Photographs may not reproduce well



Pub Type—Guides - Classroom - Teacher (052)
EDRS Price - NF01/PC02 Plus Postage.
Descriptors—"Class Activities Elementary Secondary Education. "Environmental Education."
Exhibits. "Nature Centers. Nonschool Educational Programs. "Recycling Science Instruction.
Social Studies. "Waste Disposal

Ten learning stations dealing with solid waste comprise the seminar described in this booklet. At each station, students observe a display and then answer questions listed on their data sheets. Although the seminar was incended for junior high school students, it has been used successfully with upper elementary and adult participants. Among the topics studied are composting, recycling of rubber and metal products, methody of waste disposal and the "throw-away" mentality. The guide includes directions for building each station display a majorials list estimated clist and a diagram or photograph of the completed exhibit. Also provided are a solid waste quiz. sample student data sheet background information for teachers, and questions for class discussion (NB)

ED 193 031 SE 032 872 Population Education in Science: Some Sample Lessons.

United Nations Educational Scientific, and Cuk-tural Organization Bankok (Thailand) Regional Office for Education in Asia and Oceania. Pub Date-80 .

Note-\$7p.: For related documents, see SE 032 869-871.

869-871.
Pub Tope— Guides - Classroom - Teacher (052)
EDRS Price - MF01 PC03 Plus Postage.

Descriptors—Elementary Secondary Education.
*Environmental Education *Food *Natural Resources. Overpopulation *Population Education.
Science Education *Science Instruction. Science Teachers Teaching Guides

This science teacher's manual contains nine sample population education lessons adapted from materials produced in several countries in Asia and Oceania. Activities are designed for lower primary stough high senool students. Included are class discussions small group acceptes and a role-playing situation. Food chains, human dependence upon plants and animals methods for increasing food supply water printion and land resources are among topics includated. A scope and sequence chart depicts how teachers can integrate population. growth and replied issues into the regular science curriculum (WB)

Smuth Jean, V. Comp Endangered Species: An Educator's Handbook, Florida State Dept of Education, Tanahassee, Office of Environment Education: Frence State Dept' of Natural Resources Taliahassee Pub Date - 8

Note—55p., Not available in hard copy due to mat-ginal legibility of original document Pub Type—Guides - Classfoom - Teacher (052) —

Reference Materials - Bibliographies (134) EDRS Price - MF01 Plus Postage, PC Not Available from EDRS.

Descriptors - Animals Audiovicual Aids, Botany, Ecology, Elementary Secondary Education *En-sitionmental Education, Ethies, Science Education. *Wudirle

Identifiers-*Endangered Species

Presented are two articles, un adnotated bibliography, and other information useful in reaching about endangered species, especially those found in, Florida The articles provide an ethical rationale. teaching suggestions and a discussion of the value of wildliff Descriptions of over 100 pertinent broks, periodicals, movies, and filmstops are in the broke, Periodicals, movies, and illimitingly are in the bib ingraphs. The uppendix lists Floriday endangered and inreate or arganisms along with organi-tations and agency to concerned with protecting endangered species. (WB)

Mouldin. Lundie Fronkenberg, Dirk North Carollina Marine Education Manual. Unit One: Coastal Geology. North. Carolina State Univ.. Ralagh. Sea Grant

Coll. Spons Agency-National Oceanic and Almos-

pheric Administration (DOC), Rocky lle. Md. National Sea Grant Program: North Carolina State Dept. of Administration. Raleign. Report No.—UNC-SG-78-14-A

Pub Date-Aug 78' Grant-NOAA-04-6-158-44054 Note-139p., For related documents, see SE 034

398.401. Available from UNC Sea Grant. 105 1911 Building. North Carolina Stare Univ. Raleigh NC 27607 (51.50)

27607 (\$1.50)
Pub Type— Guides - Classroom - Teacher (052)
EDRS Price - NEO1/PC06 Plus Postage.
Descriptors—*Earth Sesence Elementary School Science, Elementary Secondary Education, Enstronmental Education, *Geology, Interneciate Grades, Manne Biology, *Oceanography, *Court Court C *Science Education, Science Instruction. *Seeondary School Science

dentifiers—Coasial Zooes. Estuaries
Presented are teaching materials described to supplement North Carolina's course of study plans in germent North Caronia a course of studes and juning high schools. This manual is one of a concertion produced by North Caronias teachers and this entity faculty under a Sea Geant projection with "Min and the Seacoast." Included are 27 activities and related materials on plate tectonies, coastal plain sed.ments. island geology and ecology, and estuarthe geology and ecology. Each section contains background reading, Yocabulary, three to sia activities, and information on films, books and other related re-sources. Also provided are a table depicting the telationship between the activities and state curriculum guidelines, and a summary of this unit's goals and behavioral objectives. (WB)

ED 193 013

Masidin, Lundie, Ed. And Others

North Carolina Marine Education Manual, Unit

Four: Coastal Beginnings,

North Carolina State Univ., Raleigh, Sea Grant
Coll

Coll Spons Agency—National Oceanie and Atmospheric Administration (DOC). Rockville, Md. National Sea Grant Programs. North Carolina

- National Sea Grant Programs: North State Dept. of Administration, Raleigh, Report No.—UNC-\$G-78-14-E Pab Date—Jun 79 Grant—NOAA-04-6-158-44054

Note—197p: For related documents, see SE 034
397-401. Photographs may not reproduce well.
Available from—UNC Sea Grant, 105 1911 Building. North Carolina State Univ.. Raleigh, NC
27607 (52.00).

27607 (52.00).

Pub Type— Guides - Classroom - Teacher (052)

EDRS, Price - MFD1/PC08 Plus Postage.

Descriptors— Anthropology, Elementary Secondary Education, Environmental Education, Ethiology, "Geography, Interdisciplinary Approach, Marine Biology, Oceanography, Science Education, "Social Studies, United States History

Identifiers—Coastal Zones
Presented are simulations, puzzles, class discussions, crafts and other activities designed to in-troduce the past cultures of North Carouna's coastal u couce the past cultures of North Catolina's coastal peoples to elementary and secondary attidents. The manual is one of several produced by North Carolina teachers and university faculty under the "Man and the Seacoast" project with Sea Grant formulae. funding. Included are over 50 lessons on resource use by coastal peoples, anthropological techniques. early explorers, and coastal geography. Each section contains background reading, vocabulary, several activities, and information on films, books and other related resources. Also provided are a sum-mary of goals and behavioral objectives, and a table which relates these activities to state curriculum guidelines. (MB)

ED 199 08S SE 034 427 Population Dynamics: A Curritulum Guide for Elementary and Secondary Teachers. uan. Renton Spons Agency-Office of Education (DHEW). Washington, D.C. Office of Environmental Edu-

Pub Date—[80]
Grant—G00/701233
Noid—15p / Fur related documents, see ED 183

J16 240 EQ 188 875

Pub Type - Guides . Classroom - Learner 1051) -Reports - Descriptive (121).

EDRS Price - NI-01 PC01 Plus Postage.
Descriptors—Conservation (Emironment). *Conservation Education. *Ecology. Elementary School Science, Elementary, Secondary Education, Environmental Education, Natural Resources, Population Education, Population Population

Trends Science Education, Secondary School Science Teaching Guides *Wildrife Presented to one of the Wildlife and Encironmental Education Teaching funds that deal with resource Tapagement in a way that includes man ac user and manager of natural resources. Included are activities twith their suggested grade levels) that deal with population dynamics. Fifteen supportive activities are described. A list of recommended films and refeveryon is appended. Included within the unit is an evaluation sheet for teachers of the unit (CS)

ED 202-727 Former Rosanne Maren Victor J. Knowing the Ropes. Student Guide and Teacher Guide, OEAGLS Investigation 22.

Ohio State Univ. Columbus. Research Foundation.

Spons. Agency—National Oceanic and Atmospheric Administration IDOC). Rockville, Md.

phena Admin stration IDOC). Rockville...Md. Pub Date—Jan 61
Grant—NO.AA-04-8-M01-170. NOAA-04-158-3-099. NOAA-NA-79-AA-D-00120
Note—279. For related documents, tee SE 035
140-145 and ED 179 252-358. Prepared in collaboration with the Ohio Sea Grant Program.

Available from—Onto Sea Grant Education Office, 283 Arps Hall, Ohio State University, 1945 N. High St., Caiumbus, OH 43210 (51,00 plus 51,00

per order for snipping)
Pub Type— Gurdes - Clessroom - Learner (051) Guides - Classroom - Teacher (052)

EDRS Price - MFOI PCOI Plus Postage.

Descriptors—Elementary Secondary Education.

Language Alps Leveology, "Mechanics (Physics), "Oceanography "Physics, Science Course Improvement Projects, "Science Education, "Seafacers

Identifiersping Industry

prig industry.

Ropes and their uses for the sailor are the focus of this unit. Students begin the study by taking apart a section of tope and putting it back together, testing strength at various stages. They also practice tying different knots and learn about the uses of ropes in sailing. After investigating the mechanics of a block and tackle, students consider how ropes, ships and sailots have influenced the English language. Provided along with the students' goide is a teacher's manual which contains a materials last observe as manual which contains a materials list, objectives, recommended leaching approaches, an answer key, and evaluation items. (Author: WB)

ED 204 105 SE 0
Treewof Our National Forests.
Forest Service (DOA), Washington, D.C.
Report No —F5/P.A-1124
Pub Date—Noc 80 SE 034 905

Note-350 Contains photographs which may not

Note—339, Constant particular (130)
For Type—Reffrence Materials (130)
EDRS Price - MF01 PC02 Plus Postage,
Descriptors—Botany, Elementary School Science,
Elementary Secondary Education, *Environmental Publication, *Environmen tal Education, *Forestry, Government Publications. "Natural Resources Recreational Faculties. "Resource Materials. Science Education. Secondary School Science. "Trees. Identifiers—"Forests

Presented is a description of the creation of the National Forests system, how trees grow, managing the National Potests, types of management systems. and managing for multiple use, including wildlife. Water, recreation and other uses Included are (1) photographs, (2) line drawings of typical leaves cones, flowers, and seven and (3) descriptions of the douglas fir, Ponderosa Fife, southern pines, sugar mopie, and white oaw Ten areas to visit and oddrestes of regional foresters to obtain more detailed information are also included. (SK)

ED 205 395 4 SE 035 455 Kellogg, Don, Ed. And Others Entironmental and Contervation Instructional Ac-

tivities. Oklahoma State Dept. of Education. Oklahoma City. Pub Datc:_77

Note-349p., Pages 32 and 33 missing from decumeat prior to its being shipped to EDRS for fum-Pub Type— Guides - Classroom - Teacher (0521 EDRS Price - MF01/PC14 Plus Postage.

Descriptors—"Conservation Education, "Ecology,
"Elementary "Secondary Education, "Environmental Education, "Natural Resources, Outdoor
Education, "Science Education, Social Studies, Soil Science, Water Resources, Wildlife

Idenufiers-School Yards

Contervation and environmental education ac-Collishoma. Materials are grouped by subject matter.

'ou and Land Lee. (2) Water, and (3) Habitat
and uditie. Each chapter begins with background
information designed as a short course for the testace on the topic covered. This is followed by a set of lessons and descriptions of government agene.es, private organizations, books, films, and other resources. Also included in the manual is a chapter on resource management practices and a chapter containing directions and case studies dealing with the development of outdoor classrooms. (WB)

Stuhy, Donna L. T. Shepard, Clint L. Forest Environment-Learning Experiences.
Ohio State Dept. of Natural Resources, Columbus.

Pub Date-- [

Pub Date—3!
Note—22p.
Pub Type—Guides - Classroom - Teacher (052)
EDRS Price - MF01/RC01 Plus Postage,
Descriptors—"Cogmit'de Processes, Conservation
Education, Elèmentary Secondary Education,
"Environmental Education, "Forestry, Instructional Materials, "Interdisciplinary Approach,
"Learning Activities," Questioning Tenhinques,
Teaching Methods, Trees Teaching Methods, Trees

Environmental-education, as a traching methodology, is appropriate for all subject areas and environments. Two teaching approaches are presented with the 13 activities in this booklet serving as examples of their application to the forest envicomment and different disciplines. The first approach is based upon the understanding that learners retain more information if it is presented through thinking skills processes rather than by facular memorization. Each activity has learners use

ne of more of the thinking skills processes as capted by the U.S. Forest Service. The second approach, a questioning strategy, uses four kinds of questions, in a sequence: open, focus, interpretive, and summary. Each activity lists questions based upon this strategy in addition to the thinking skills and questions, information for each activity indicates the objectives, time necessary to complete, numbers of students (individuals, class, groups), location, equipment, and procedures, Topica include, among others, family tree, leaves, bark, forest floor,

rotten atump, change, and the urban forest. Other settatics etc anticated for gifferent emplect eterr ED 219 244 SE 038 587

Canipe, Stephen Energy Bingo. Pub Date-[82]

Note-19p.

Note—19p.

Pub Type— Guides - Classroom - Teacher (052)

EDRS Price - MF01/POII Plus Postage.

Descriptors—*Educational Games, Elementary Secondary Education, *Energy, Environmental Education, Fuels, Learning Activities Identifiers—*Energy Education, Fuels are provided for this bings game focusing

on terms related to solar, cost, nuclear, bydro, and wind energy. Playing cards and calling cards (to be cut out by the teacher) are also provided. (JN)

Sociocultural Emphasis

Elementary/Middle

ED 034 104 AA 000 464

Lee Tunney And Others
Teacher's Guide to the City: The MATCH Box Project: Prototype Edition.

Contracts—OEC 16-019

Note-56p. Appendir to Kresse, Frederick H., Materials and Activities of Teachers and Chil-

dren. A Project to Develop and Enabutte Muti-dren. A Project to Develop and Enabutte Muti-Media Kits for Elementary Schools EDRS Price MF-50.25 hC-52:99 Descriptors—"Actor the Learning. Audiovisual Aids. "Discovery Learning. "Elementary Grades, Instructional Aids, "Mutumedia in-Mruetion, Resource Materials, Social Studies

Oraces, instructional Alos, Mutumedia Instruction, Resource Materials, Social Studies Units, Teaching Guides

Bedülers—MATCH Boxes, Materials and Activities for Teachers and Children

To intruduce children (grades 1-4 tro the concept of the city and furnish them an appreciation for the relationship that exists between them, a multimedia kit has been assembled. The attention was the kit allow the child to explore the convitory vanious trappoints. By comparing their similarities and differences the culti- are avoided in a sequite, a reasonable image of what a city is and what happens there. The kit includes pholographs, time, books, a model city and a recent. There are 17 lesson plains. Each is printed on a sequite card and gives detailed information concerning objectives, materials, and procedures. The teacher may choose the mimber and order of lessons most signable for the class, Supplementary information includes a map a poem, and background informationing the control of the contr supplementary information includes a map 2 poem, and background information about the contents of the kit. A list of suggested additional materials is provided. The guide is prefaced by a stort history of the MATCH Box.Project (13)

ED 051 011

SO 00 | 186]

ED 051 011
A Currievium Guide in Elementary Social Studies

Man in the Community. Grade Two: Howard County Board of Education, Clarksville Pub Date 70

Note-169p.

Available from Social Studies Departments
Howard County Public Schools: Clarksville/
Maryland 21029 (53.00)

EDRS Pelce MF-\$0.65 HC-56.58

EDRS Palce MF-\$0:65 HC-56:58

Descriptors—Citizenship: "Community Study,
Concept Teaching: "Cross Gutural Studies,
Cultural Environment, "Carriculant Guides,
Elementary Orades, "Environmental Education;
Field Experience Projections, Geography, Orade
2. Human Refability Lights: Map Skills, Natural
Resources, Non Western Cavilization, Rural Environment, "Social Studies-Units Urban Environment, Values, (dentifiers—Janan, Marchand, Thailead, excessions)

identifiers - Japan, Maryland, Thailand Values Education

Man in the Community is the thome of this so eill studiess curriculum, gunde for Grade 2. The course emphasizes, what a community is, they people contribute as individuals and family groups, and cumparative study of community life. A attack aim is fur the student to gain

knowledge of his place in the community and his worth as art individual. Content is divided into three units of study. 1) People Create Communi-ties; 2) The Community and Its Natural Resources; and 3) Comparison of Communities Around the World. Special features of the grade two eurriculum are field esperience programs. environmental education, and a variety of map, globe, and other geography akills. A erry commu-nity in Japan and a small village of Thailand are the selected areas for comparative study. Format of the guide is consistent with this series with major divisions for 1) Concepts, 21 Teaching Strategics. 3) Content and Materials, 4) Variences in Strategies and Content, and 5) Evaluation. Re-lated documents are, SO 001 185 through SO 001 189. (JSB)

ED 051 012 SO 001 187 A Curriculum Guide in Elementary Social Studies:
Man and Alis Institutions. Grade Three.

Howard County Board of Education, Clarksville,

Pub Date 70

Note-258p.

Available from-Social Studies Department.

Available from Social Studies Department,
Howard County Public Schools Clarksville.
Maryland 21029 (\$3.00) -EDRS-Price MF-\$0.65 RC-\$9.87
Descriptors-Chitzenship City Planning. CityProblems: Communications. Concept Teaching.
"Curriculum Guides, Democratic Values, Elementary, Grades Education. Governmental Structure, Government Role, Grade 3, Human Relations Units, Industrialization, Pollution, Public Affairs Education, Social Change, *Social Studies Units, Transportation,

The course theme of this grade 3 social studies curriculum, guide is: Man and His Inistitutions. With a background of family and community study in grades I and 2, the purpose at this level is to analyze more institutions created by man to is to analyze more institutions created by man to investing growing complexines of society. Specific institutions selected for study are: 1) Government as an institution; 2) Transportation and Communication; 3) Urbanization and Industrialization; and, 4) Education, as an institution (Ofitional). Format of the guide is consistent with the series with major divisions for 1) Concepts, 2) Teaching Strategies: 3) Content and Materials, 4) Varieties in Strategies and Content; and 5) Evaluation. Bal-timors Maryland and the planned city of Culumbia. Masyland are the urban communities thosen for study. Related documents are: SO 001 185 through SO 001 189. (Author/JSB)

SO-001 950 Project Chandle West, Five to Nine: Urbanization and the Social Studies Curriculum for the First Four Years (K-3) of Canadian Schools.

Four Years (K-3) of Canadiah Schools.
Western Curriculum Project on Canada Studies.
Edmonton (Alberta).
Pub Date Jun 71.
Noto-60p.
EDRS Price MF-80-68 NC-53.29
Descripturs - Affective Objectives. Cogniuse Objectives.
Concept Teaching. Curriculum
Development. Elementary. Grades. Emission
mental Educations Individual Development. mental Education, Individual Development,

Training, / Kindergarten, Literature s. Self Concept, Self Esteem, Socialization, "Social Studies, Urban Environment, Urbanisation, "Urban Studies, "Yalucs, entifiers—Canada, "Project Canada, West, identifiers-Canada,

Values Education The Powell River Project proposes in this progress report to design a curriculum with the Canadian urban environment as a major focus promoting cognitise and affective learnings that are verifiably appropriate thing a team of primary teachers as designers. Activities and experiences will be selected which lead the child to learn his role in society, understand the relationship between groups, the interdependence of people and institutions, and, how they are affected by irand institutions, and, how they are affected by ur-banized environments, and, develop self concept, self esteem, and a sense of individual responsibiliself esteem, and a sense of indiridual responsibility. The criterial for the selection of teaching strategies and aerivates are outlined practice and development of intellectual skills, divertily of techniques, open glassfroom climate, active decipion-making, use of inquiry techniques, and free concept and value formation. Criteria for the structure of the materials, are also given. For begm, the project reviewed relevant literature on urbanization, child psychologogy and learning theory, structure and strategy in the social studies, printed tesefting and learning resources, and current and projected social studies curricula for current and projected social studies, curricula for the Canadian provinces. The findings are summarized here and the bibliography is appended. Also appended are: It a summary of an inventor, of knowledge skills and aufludes of kindergarien children, and, a study of the understanding of the elementary children of Powell River concerning their civic election. (Author/SBE)

ED 056 874 Anderton, Pat Town and Townships. Madison Public Schools, Wis. Pub Dale [71]

EDRS Price MF-50.69H 043.29

Descriptors—Audiovidual Aids. Environmental Equication. Filmstrips. Instructional Materials, "Intermediate Grades, "Land Use, "Municipalismental Condes, "Land Use, "Municipalismental Condes,"

Intermediate Grades, "Land Use, "Municipalities, "Teaching Guides,"
Long range effects of early gubble land surveys, the distinction between towns and townships, and the significance of town government in modern-Wisconsin are portrayed in this teacher's guide for upper elementary grades. With supplementary materials it could be used in a unit on local or Wisconsin geography; as an introduction to problems of urban growth, or as a segment on governmental entities which make up a modernmetropolitic area. Two filmstrips are employed to present the facts. Pair i describes the publicand survey and its effects particularly on farm to present the lacts. Part I officially on farm land turvey and its effects particularly on farm countries. field shapes and plowing postierns, rigid locations, and community shapes and parterns. Part II deab with the effects of the survey on patterns of local government in Wisconsin and raises some questions on the consequences of 19th century governmental patterns as they complicate 20th century urban growth. Both filmstrips are explained in their entitely, illustrating mentary materials in the booklet relate the long

nga significance of the Land Ordinance 1785, saily policy questions of land use, methods of establishing and maintaining boundary line). and the numbering and describing of sections. townships, and ranges 'Additional materials in-clude mass, tests, a bibliography, and suggested uses of the materials. Filmstrips are not included.

SO 002 653

ED •• 187 The Urban Condition. An Interdisciplinary Pro-gram in Urban Social Studies. Alexandria City Schools, Va.

Pub Date 1701

Note-130. EDR\$ Price MF-\$0.65 HC-\$3.29

Descriptors—*City Problems, *Concept Teaching, Course Descriptions, Ethnic Studies. Grade 8, *Interdisciplinary Approach, Junior High Schools, *Social Studies Units, Urban

Culture. Urban Environment. Urbanization, Usban Stums, *Urban Studies Described in this guide is a thirty-six week, interdisciplinary, urban social studies course for 8th grade students that is designed to involve students in the substance and process of urban problems. The major objective is to prepare students to live and survive in an orban environment. The program emphasizes a process approach to thinking, stressing inquiry training, problem solving, and value elacification. Substantive, value, and method concepts from the social sciences are developed in an attempt to stimulate thinking Each unit and subumt states specific objectives in performance terms, provides teaching strategies, includes related activities, and lists basic and supplementary materials. The four major units nearly all of three weeks duration (as are the subunits)." are: I. Social studies skills workshop; II Perspecuvex of the urban scene (two subunits); til: The people of the city, and, IV. Chattenges of the urban scene (seven subunits of togics on city problems). A variety of multi-media materials, comprised of differing reading levels and multi-ethnic materials are used (SJM)

ED 080 367 SE 016 6215

Enelronmental Education Curefruiem Grift Jor Intermediate Social Studies.

olde Forest Insummertal Education Center. Reading Pa Pob Date 1731

Note - 39 p.

EDRS Price MI-SO.65 UC-\$3.29

Couder trainer Description - 2 generation Funder + technics - the mention liquids - Frederinmental Education fundamental Educational Materials Learning Resources Social Studies Actuation Sources

Resources, Second Studies.

Resources, Second Studies intust present in a contemporal consecution which can relate the committee of maintaining the contemporal contemporal maintaining the contempora quality enter nount, represents the busine materials. They are designed to give specific emphase to the ecological implications of man's activation as generally explored in the speak-sturdies coure of an grades four through see the midden laborations approach to completed to cocourage students to broome more aware of their historistic man auming vontres gies tabouspipping to entreue, to consequent but ennument onto the place around mying dutediffer the foreign the precipitation of the contract questions, and activities are built. Three concepts are identified for each generalization, and in-disidual concepts detail open ended questions, discovery activities, appropriate terms of vincabutary words, and instrugional platerials imagtimediat. Performance injectives, suggestions for coaluation, and a hibliography of books and Tudd force are upor browned in this entirential kange.

ED 091 268 SO_007 421 Man and Itis Relationship to the Natural and Cul-tural Environment: The United States. A Resource Gulde.

Hawan State Dept of Education, Honolulu, Office of Instructional Services-Pub Date-72

Note-52p

DRS Price MF-\$0.75 HC-\$3.15 PLUS POSTAGE EDRS

American Culture. Descriptors -Background, Cultural Factors. Economie Education, Elementary Education :: Ethnic Studies, Models, Political Science, Resource Guides, Social Mobility, Social Strauffention, Social Studies, Jeaching Dudes, United States History, Values

A sample of a one year curriculum for an elementary social mentary social atudies program is byganized gives expression to the culture of the Amedican-nation, rather than following the sequential development of historical ryend. The goal of the program is to understand it contemporary Americans early comprehend, the states comprehend the states comprehend the icans can completiond, the suction conditions of the present by a sudy of the mation in the past and if Americans today detect dustic changes in values, beliefs, and practices. The publication asprimarily a resource guide which includes the following four units. American Culture, Social Strautication, Political Culture, and Economic Resources and Growth, Each unit begins with an incommendation. ntroductory overview followed by a listing of the generalizations guiding the development of the unit Major concepts are then defined and the student objectives are spelled out Sample suggested activities are then developed. Each unit ends with possible evaluation exercises and a sing gested listing of instructional materials for teachers and students. The first unit on American culture can be used as a model for developing similar units. (Author/KSM)

ED 091 269

SO-007-422

Man in Ills Natural and Cultural Engironment. A Resource Guide. Hawari State Dept. of Education, Honolidy, Of-

face of Instructional Services. tire of the Party 72

Note-182p. EDRS - Price MF-50.75 HC-\$4.20 PEUS

Descriptors - Cultural Awareness, Culture Con-

Descriptors— Cultural Awareness. Culture Contact. Currenting Guides, Elementary Education. Environmental Education. Learning Activities. Map. Skills. Neitural Resources. Resource Guides, Social Change. Social Influences. Social Studies, Teaching Guides, Thematic Approach, Unit Plan, Values. A sample of a one-year currendum for an elementary social studies plogram employs a the matic approach to the theme. of man in his natural and cultural environment. The publication is firmatilying five gold: Our Environment is Everything froug till gold: Our Environment is Everything froug till. Péople Have, Cultural Environment. Atound Us. People Have: a Cultural Environment: People: Have a Social Environment: People Use the Earth's Resources; 2nd People Adapt io Charge, Each unit heging with an introductory otherwise followed by suggested instructional materials for leathers and sudents. The unit is then developed through, various suggested learning activities with notes in the materns spelling out objectives (or the lessons Each; unit ends with suggested evaluation esercises. There are non-interested in the suggestion with the contest of the suggestion with the contest of the suggestion of the numericipus featuring actionnesstrom which teachers may solect; adapt, of modify to meet the specific needs of their students. A suggested outline for one approach the students has suggested outline for one approach the students are to be flexibly meeters and the teacher is encouraged in add or delete, adapterals, and activities for a particular group of students Learning materials for learning and students fie analyzed for their application to each of the units (Anahorth SM).

ED 193 743

Dinize Mannt Crump, Claudia
Teaching for Social Values in Social Studies.
Association for Childhood Education, Injetuatulnal, Washington, D.C.

Pub Date 24

Note 14p.

Available 170m Association for Childhood Edvication International, 3645 Wisconsin Avenue,
N.W. Washington, D.C. 20016 (\$2.35, orders
inities 35.00 cannot fie billed)
EDRS Price NF 50.73 HC Not Available fosing
EDRS PLUS POSTACE

Descriptors—Conflict Resolution, Democrafic
Values: Discriminatory Assuades (Social): Educational Strategies, Elementary Aducation, Environmental Education, Etrophing, "IlumanRelations, Interaction, "Interferiment Relationthin Learning Activities/Role Playing, Selfthip. Learning Activities Role Playing, Self

Concept, Simulation, *Social Studies, Teaching Techniques, *Values

A guide for teaching values in social studies takes a positive stand with regard to the importance of values education in the elementary ishool bused on the belief that many personal and societal problems are the results of unand societal problems are the festilis of un-resolved value conflicts. It is, hypothesized that children, who have continuing experiences in value identification, clarification, and conflict resolution are better able to meet duity problems and that-social studies offers an effective vehicle for value clarification as its content to drawn from the world, of human relationships and interactions. An introductory chapter clunifies the values dilentina in social studies. Five chapters describe strategres and suggest activities for huilding selfconcept, sudening friendships, overcoming has and prejudice, fealizing democratic ideals, and renewing the environment, all through the valuing processes. Fole Playing, simulation, and discussion techniques are explained in each chapter. Activities involve entire classes, small groups, and individuals as well as student leacher and peer interaction related to social studies content areas. (Author/KSNI)

ED 098 084 SO 007 773 Williams, Elmer D Keach, Evereit.T., Je.

rimary Environmental Education P Teacher's Guide and Modules 1, 2, and 3. Primary

Georgia Univ. Athens
Spons Agency Office of Education (DHEW).
Washington, D.G. Office of Environmental Education . Pub Date 73

0EG 0 17:5121 Crant-

Note 383p.

Available from Primary Environmental Education Project, 206 Dudley Hall. University of Georgia, Athens, Georgia 20002 /89 00 /c: teacher's guide and nime modules, mimeo)

DRS Price MF-50.75 HC Not Available from

EDRS PLUS POSTAGE.

Descriptors - Activity Learning Cognitive Ob-featives Concept Formation, Eculogy, E.emen-lary Grades, Environmental Education, Inattructional Materials, Integrated Activities Interdisciplinary Approach, Learning Processes. Management, Polymon, Process Education Special Studies Units, Systems Concepts.

Teaching Methods tional modules on environmental education witien are designed as supplementary material for a ormary level social studies pregram. The modules focus on teaching learning lensities that will build on understanding of the interrelationships between marriand the land, hater, and air. A major objective is to have the students deal realistically with the environment. Emphasis is given to the thinking processes of young o'll dren and the provision for many obsertunities to engage, in acteative thinking Each instructional module (1) lists all required materials, (2) providel ID- (5 learning especiences organized with a stallement. of content, required material, behavioral objectives, focusing questions, and overviews and the suggests supplementary expottentes. The teacher's guide describes and illus-trates jeaching strategies based on three cognitive tasks correspt formation, interpretation of data, and application of principles-and on productive direigent thinking behaviors. Additional tug-gettions for using the modules, a rationale for in-volving the community, and a final evaluation insirument are also included. (Author/JH) - ,

ED 099 210 88 SE 018 238 Helpich, Carl - And Othert
Thickand is Lour Land, The Problem of Land SE 018 238... Efficielog. Environmental Ecological Education

Pathway School District, Chesterfield, Mo Spons Agency-Bureau of Elementary and Secondary Education (DHEW/OE). Washing-

ton, D.C Pub Dete (7) 1401c-- 82p

Price ME-\$0.75 HC \$4.20 KDAS POSTAGE

Descriptori - Gomervation Education, Curricutun Caudes. - finvironmental Education, Enxnonmental Influences, Grade 7; Instructional Majerials, Land Vie. Learning Activities.

"Natural Resources, "Secondary Education, Teaching Guides

-Elementary Secondary Education Act Title III ESEA Title III

This unit written for seventh-grade school children, focuses on the variety of factors that are involved in land utilization. It specifically examines land use in St Louis County, Missouri, and, discusses such concepts as the variety of ways man has used this land, the influence surface features have on land use, the influence of socio-cultural factors on land use, the effect of natural disasters--particularly in regard to improper land use, and the variety of eateers in every aspect of land use The unit includes the behavioral objecoves and the expected student criteria for evaluation, pretests and positiests, suggested methodologies for teaching each concept, a bibliography of both teacher and student resource books, a glossary, of terms, a list of appropriate films, and environmental resource inventory data sheets for each of the junior high schools in the Parkway

SE 018 232 ED 100 649 88

Abbott, Verlin M Environmental and Architectural Influences on Homes. Environmental Ecological Education Project. Revised.

Parkway School Distnet, Chesterfield, Mo

Spons Agency-Bureau of Elementary Secondary Education (DHEW/OE), Washington, D.C

Pub Date Jun 72

School Ditinet (MLB)

Note-65p EDRS Price MF-\$0.75 HC-\$3.15 PLUS POSTAGE

Descriptors-Conservation Education, "Currieulum Guides, 'Elementary Education, Environmental Education, "Housing, Housing Needs, Housing Patterns, "Interdisciplinary Approach Natural Resources, Outdoor Education Setence Education Teaching Guides deptifiers Elementary Secondary Education Act

Tale III, ESEA Tale III

This unit, intended for grades four and five, focuses on houses and how they have influenced man and how man has influenced them. Among the 14 concepts discussed are the history of homes, home and the environment, homes and heritage, homes and human needs, the design of homes and available land Besides the concepts, the unit includes behavioral objectives identified by concept, a pre- and post-test, teacher background information, and a suggested instruetional sequence which includes a variety of related activities. A bibliography and film list are listed. (TK)

ED 100 650 SE 018 241 88 Abbott, Verlin M.

The Classroom as a Mindature Society, Environ-mental Ecological Education Project, Revised.

Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE), Washing ton DC

Pub Date Jun 72

Note —69p. EDRS Price MF-50.75 HC-53.15 PLUS **EDRS**

Descriptors-Conservation Education, Curney lum Gordes, "Elèmentary Education, "Environmental Education, Instructional Materials, *Interdisciplinary: Approach, Natural Resources, Outdoor Education, Science Education, "Social Environment, Sociocultural Patrans, Teaching Guides, Units of Study (Subject Field) Identifiers—Elementary Secondary Education Act Title III, ESEA Talle III

This unity intended for grades five and six cludes a group of experiences designed to help students and the teacher understand society's effect on their environment and to parallel the actrities in the classroom as a miniture society with life outside the school. The main idea developed is that cooperation is the key word in developed is that ecoperation is the key word an-man a interaction with others and his environ-ment. Among the 11th concepts discussed are cooperation between society and the total en-vironment, the need for conservation laws, valu-ing and freedom! Heistes she ten concepts, the unit, includes behavioral objectives which are

identified by concept, a pre- and post-test, background information designed to help the teacher effectively deal with attitudes and values, and a suggested instructional-sequence. A bibliography is also presented. (TK)

ED 100 693 88 SE 018 364 Social Studies 7-8, Environmental Education Guldê.

Project I-C.E. Green Bay, Wis Spons Agency—Bureau of Elementary and Secondary Education (DHEW OE), Washing-ton, D.C., Wisconsin State Dept. of Public In-struction, Madison

Pub Date [74] Note —80p EDRS Price

MF-50-75 HC-54-30 PLUS POSTAGE

Descriptors - Conservation Education. Economies, Environm structional Materials. *Environmental Education, Instructional Materiais, Interdisciplinary Approach, Learning Agentus, Natural Resources, Education, Political Science,
Science Education, Secondary
Social Studies, Sociology Outdoor Education

*Teaching Guides
Identifiers—Elementary Secondary Education Act
Title III. ESEA Title III. *Project I C E

This social studies guide, for use in grades 7 and 8, is one of a series of guides. K-12, that were developed by teachers to help introduce enpronmental education into the total curriculum The guides are supplementary in design, containing a series of episodes (minitessons) that broaden the student's views of environmental problems through social studies activities. The episodes are built around 12 major episitonmental concepts that form a framework for each grade of subject area, as well as for the entire K-12 Program Although the same concepts are used throughout the k-12 program, emphasis as placed on different aspects of each concept at different grade levels or in different subject areas. This guide focuses on aspects such as sociology, economics, psychology, and political science. The 12 concepts are covered in one of the episodes contained in the guide Further, each episode offers subject area integration subject area activities, interdisciplinary activities, cognitive and affective behavioral objectives, and suggested references and resource materials useful to teachers and students (Author/TK)

95 🔭 SO 008 068 ED 100 778 Cuppen, Batte

Environmentally Related Program for the SixIb Grade.

Western Washington State Coll, Bellingham . Huxles Coll of Environmental Studies

Spons Agency-National Center for Educational Research and Development (DHEW/OE), Washington, D.C.

Bureau No - BR-0-0848 Pùbote Dec 31.

Published Dec 21.

Gram—OED-0-10-5039

Solte—For This Johnney Last of the ongoing Select Missiles, Proventies, ED 100, 118 and 066 3631 Poles \$5.38 from the appendix have ocen remained to conform with copyright law EDRS Price MF-50.75 HC-5-1.20 PLUS POSTAGE

POSTAGE

Descriptors Biology, Caracept Teaching, Conservation Education, "Earth Science, "Ecology, Elementery Education," Firstronmental Education two yield Trips Grade o. Human Geheraphy, Interessertiman, Approach, Modely, Physical Geography School Community Relationship. *Social Studies Team Teaching Identifier - *Sedto Woolley Project

The successful integration of eenlogy and social studies in this sixth grade program offers students a unance to become aware of themselves and their initiative surroundings, both in the class-grown and in the community. This model and the agreeted fearning activities can be successfully adjusted for the at any of the other elementary levely Students in the project study natural man-thade and social aspects of the world Through the first of team touching group as levices, field and community projects, students gain an awareness of important environmental concepts and become aware of their social environment. One problem encountered in this project is the

advanced reading level of most of the materials un environmental-Education. However many of the articles suitable for class use can be reworded in order for students to comprehend them Sample evaluation forms and suggested supplementary materials useful in the classroom and in conjunction with field trips are included in the appendis (Author, JR)

95 ED 101 943 SE 018 116 (East Syracuse-Minos Schools Environmental Education Materials, Middle School Package, Grade 8-Social Studies.

Essi Syracuse, Minoa Central Schools, East Syracuse, N.Y.

Spors Agency—Office of Education (DHEW),
Washington, D.C. Office of Environmental Education.

Pub Date [73] Grant—OEG-0-71-4621

Note-155p: Best copy available, occasional marginal legibility

EDRS DRS Price POSTAGE MF-\$0.76 HC-\$8.24 PLUS

Descriptors-American History, escriptors—American History, Conservation Education, "Currentum, Guides, Economics, Environmental Education, Government Role, Grade 8. History, Interdisciplinary Approach. earning Activities, Science E Secondary Education, Social Learning Education. Studies . Teaching Guides, Teennology, Units of Study (Subject Fields)

This interdisciplinary social studies limit is designed for use in the eighth grade. The unit is developed around three themes: Habitation Patterns, Economic and Technological Development. and Changing Role of Government. Habitation Patterns encompasses the generalization that change is often the result of many forces. The change is often the result of many forces. The history and growth of the U.S. 1492-1900; is developed in three sections. 1992-1783, colomial America. 1783-1860; the U.S. as an emerging nation; and 1860-1900, the growth of a capitalistic society. Objectives, activities and strategies, materials; and expected outcomes are about included. The Economic and, Technical Development of the U.S. encompasses the generalisation. That difference was soft life tend to compare for that differing ways of life tend to compete for available resources. This theme is broken into. five sections. 1492-1783, 1783-1860, 1860-1901, 1900-1945, and 1945-1971, activities and strate. gies, materials, and espected outcomes are sidentified for this theme. The Changing Role of Government encompasses the generalization that sethe government of, a society is closely related to . its values, even so, no government can suitsly all groups all the time. This theme is broken into the same five sections as above. Policies, plays, background information, tests, and references fre included in the appendices. (TK)

ED 102 048 .

SQ 008,069 a

Juneblom, Edwin N.

An Interdisciplinary Program Incorporating Popu-tation Studies for Intermediate Grades, Sedro-

Woolley Project Repair of 13.
Western Washington State Coll. Bellingham,
Havie, Cell of Engironmental Studies
Spons Agency—National Center for Educational

Research and Descrippment (DHEW/OE).

061 (18; ED 066.36)

ORS Pric Price MF, \$0.76 HC-\$3.32 PLUS

Publisher Course, Objectives, "Curneylum Development, Demography, Elementary Education, "Enteronmental Education, Eculuation tion. *Entronmental Education, Ecaluation Methods, Field Tript, Graphs, *Interdisciplinate, Approach, Intermediate Grades, Juries High Schools. *Population Education, Population Trends, Oyestroning Techniques, *Social Studies, Teaching Methods, Woold Problems Idensifiers. *Social Studies, Teaching Methods, Woold Problems Idensifiers. *Social Studies, Teaching Aferbook, Playeet

enishers—"Sedro Woodley Pfuseer

The publication contains exercises on popula-Iton education which call by used to focial studies and spience clarkes in grades 4-7. Although the language of the material is goings to the intermediate grades, the exercises can easily he adapted for primary, high school, and adult edu-The publication's major objective is to

change the lifestyle of people or to sites idrastically the values that people have about finite spaceship Earth Teaching techniques include readings; classroom discussions, gathering, collecting, and analyzing data. developing hypotheses and drawing conclusions from data: constructing graphs, research, field trips and writing essays. The major portion of the publication contains exercises dealing with population explosion, famine, epidemie, health and sanitation, death rate, birth rate, growth rate, and population estimates. Linit objective, teaching methods, student resource material, questions for discussion, and halvation techniques are provided for each topic Specific issues to investigate and problem study areas are also provided fambor(RM) (Author/RM)

ED 120 045

SO 008 94 I

McCraa, Lesier C And Othere Demography and Environment Earth: Teacher

Billimore City Public Schools, Md Urban Life-Population Education Inst

Pub Date 74

Note-108p. For related documents, see SO 008 940 through 945. Some pages may not reproduce clearly due to print quality of original document

Available from—Population Studies. Baltimore

City-Public Schools, 2418 St. Paul Street, Bal-timore, Matyland 21218 (\$1.00) EDRS Price MIF-\$0.83 HC-\$6.01 Plus Postage

Descriptors - Concept Traching, Democraphy. Elementary Education. . Environmental Education, Global Approach, Graphs, "Human Geography, Instructional Materials, Learning Activities, "Population Education, Population Growth, Population Trends, Social Sciences, Social Studies Units, Teaching Guides. Touching Techniques

This document is one in a series of instrucmaterials on population education developed for the Baltimore public schools. The mit: designed for elementary grades 5 and 6. ocuses on demography and human factors and consequences. The first part of the resource unit presents basic anformation, methodology, and undetriandings of demography and population growth. Extensive use is made of charts and graphs and mathematics to present the problems. surrounding population trends. The second secsignity, and bossing confedences of overbobalafrom The focus is of the implications of popula-lion gright for the occiety, individual, and earth which are seen as interretaled concepts teach episode in the unit sentains the topic subjectives, materials needed, discussion and aclustic. This unit may be taught as a whole, or specific topics within the unit may be taught separately (Author) R. (Author/JR)

ED 120 053

... SO 008 955

Benjamin. Felier And Others

An Interdiscipilhary Instructional Late on Land. Vee In Pincilas County, Florida, Social Studies Project No. 877.

Spons Agency—Florida State Dept of Education. Tallohastice Office of Environment Education Note—181p. Pages 23.30 and 113.124b of the original document are copyrighted and therefore not available. They are not included in the

EDRS Price MF-\$0.83 HC-\$8.69 Plus Postage

Descriptors... *Currieu'um Development. Currieus lum Guides. *Environmental Education. Envirunmental Influences instructional Materials. Interdisciplinary Approach, Junior High Schools, *Land Lve. Learning Activities, *So-cial Studies, Teacher Descriped Materials.

cial Studies, leacher Descriped Materials. Transportation, Water Resources, Zoning Identifiers. *Etherida (Pinellas County)

This unit contains a number of learning activaties which can be incorporated into junior-high environmental education classes. Objectives are to make students aware of local environmental complements and affects aware of local environmental. problems and elarify their personal values about environmental sseue. Along with general kinds of fund and problems and historical overviews, the unit fugures specifically on four major land use musics in Penetlas County. Florida, including heach development and natural disasters, landwist and planned anims, transportations and water supplies, distribution, and wastes. Each unit of the guide contains appropriate teacher information, such as materials needed, special notes to the feacher, activities, objectives, skills, generalizations, and guidelines. Although focused on Florida, the unit serves as a good model that cun ha custly adapted in other reginns. Fedence's can substitute maps, graphs, and uther kinds of local information using the Pinellas County model as an exemple (JR)

ED 121 567 SE 019 334 88 Benness, Dean B Willink, Wesley H

Environmental Education Teacher's Guide. Junior High School. A Core Experience Study of the Human Environment.

Maine Environmental Education Project, Yar.

Spons Agency-Bureau of Elementary and Secondary Education (DHEW/OE), Washington, D.C.

Pub Date 75 Note-64p. For related documents, see SE 019 332-335

Available from—Maine Environmental Education Project, Intermediate School, Yarmouth, Maine 04096 (free)

EDRS Price MF-\$0.83 HC-\$3.50 Plus Postage

Descriptors—Audovisual Aids, Curriculum Guides, Environment, "Environmental Education, Junior High Schools, "Land Use, "Learning Activities, "Secondary Education, Skill Development, "Teaching Guides,

Identifiers—Elementary Secondary Education Act Tule III. ESEA Title III

Environmental Education Guide developed for use in the junior high school, is designed to familiarize teachers with how an environmental education program can heip in their teaching and in achieving the goals of the senool. The suggested core activities in this stude are designed to be a motivating way of in-troducing junior high school students to a practi cal understanding of the human ensironment The activities fagus on those factors important in evaluating the compatibility of land uses with each other and with the natural environment. The practicality of the unit is enhanced by the appli-cation of facts and concepts to a developed tiver corndor. The activities have been devised to section specific understandings, feelings, and skills Basic concepts, attitudes, objectives, and skills are adentified and a pre-post test is included to neight ne teacher assess educational outcomes (BT) develop specific understandings, feelings, and

ED 124 450

SO 009 143

Our Cowded, Dity World: The Development of Our Environmental Crisis and its Impact upon One's Habitat Instructional Activities Sectes. National Council for Geographic Education.

Report No-IA/E.5 Publ Date 75

Note—7p., For related documents, see ED 096 235 and SO 009 140 through 167 Available from—NCGE Central Office, 115 North Martion Street, Oak Park, Illinois 60301 (\$50, elementary set \$6,25) EDRS Price MF-\$0.83 Plua Postage, HC Not

Available from EURS,
Descriptors—Ecological Factors, *Ecology, Elementary Education, *Environmental Education, Geography, "Leatning Activities Observational Leatning Social Studies, Teachee Developed Materials, Uthan Environment, Urban Studies

This activity, the fifth in a set of elementary teacher-developed units for geography. is intended to help teachers in developing an ecological unit. It examines pollution problems in the United States through observation and toquity. An environmental walk activity is outlined that can be performed in any area near a school. It provides an opportunity for students to esamine and evaluate data, hypothesize about collected data, and draw conclusions. Teachers are recommended to contact their local park authorities for more materials. A bibliography of free or incapensive materials on Pullution is provided, along with an exemplary map available from The Washington Post" for free See \$0 009 140 for a general description and explanation of the elementary and secondary sets comprising this series. (ND)

ED 124 451

SO 009 144

Callahan. Miriam Thomas And Others Population: 1 + 1 = 2 Many Plantructional Activi. tles Series.

National Council for Geographic Education Report No-IA/E-6 Pub Date 75

Note-14p, For related documents, see ED 096 235 and SO 009 140 through 167

Available from-NCGE Central Office. North Marion Street, Oak Park, Illinois 60301

(\$ 50, elementary set \$6,25) EDRS Price MF-\$0.83 Plus Postage, HC Not Available from EDRS.

Descriptors—Demography, Elementary Educa-tion, "Food, Geography, Graphs, Instructional Materials, "Learning Activities, Population Education, "Population Growth, Social Studies, Teacher Developed Materials

This activity, one in a set of teacher-developed nstructional activities for elementary-level geog. raphy, investigates the problems and promise in meeting the nutritional needs of the world's peo-ple. Graphs are the principal media for instrue. tion. Thirty nine statements are given from which ing the world's population and ten that offer the least help. Seven graphs are provided in the material. See SO 009 140 for a general description and esplanation of the elementary and secondary sets comprising this series. (Author/ND) students choose ten that show promise for feed.

ED 130 927

SO 009 493

Morris. Donald M Teaching about the Child and World Europa-ment: Elementary Teacher's Kit.

United Nations Children's Fund, New York, NY United States Committee Report No-KiT-5420

Pub Date 76

Note = 72p

Available from-School Services, United States Committee for UNICEF, 331 East 38th Street. New York, New York 10016 (Kit. # 3420. \$2.501

EDRS Price MF-50.83 Plus Postage. HC Not Available from EDRS. Descriptors—Climatic Factors. Cognitive Object

tives. Conservation [Environment]. Educational Games, Elementary Education, Elementary School Curriculum, "Fnvirrymental Education, Environmental Influences, Futures to Society). *Global Approach. *Human Geography. Instructional Materials, Interdisciplinary Approach, Physical Environment, Pullution. Science Curriculum, Social Studies Units, Teaching Guides, World Geography Three environmental education units relating

environmental concerns to elementary school students' own experiences are described in this materials packet. Emphasis is on helping students become more sensitive to human and personal dimensions of environmental upset. Designed to teach children about themselves and their air. warer, and land environments in an increasingly interdependent world, the units focus on natural disasters such as earthquakes, floods, weather upsets, pollution, and scarcity of natural resources. Each unit specifies objectives, materials, grade levels, and teaching procedures, supplies history brefs of related materials; defines terms where necessary, and provides a summary and foot-notes. Activities include simulation of an earthquake and a simple watershed, class discusston of environment-offented atticle, from the newspaper, cutting out natural objects from eon-struction paper, testing for bacteria, making models of geographic areas, and listening as the teacher reads stories of natural disasters. Several articles which appeared in UNICEF News and a wall sheet that are part of this lat are available from the publisher but are not included on the microfiche (Author DB)

ED 132 011

SE 021 447

ED 132 011
Amor. Ruth
The Games Cities Play Project ECOLogy ELE

The Games Cities Pak.

Pak. Amor Pak!

Highling Public Schools, Scattle, Wash

Spons Agency—Bureau of Elementary and

Secundary, Couraging (DHEWOL). Nathington, D.C.

5E 021

Note-18p., For related documents, sec 56 021

a38.478. Not available in hard copy due to

tional Divition. Project ECOLogy ESEA Title III. Bill Guise, Director, 15075 Ambum Blvd.
S.W. Scattle, WA 95100 (\$2.59).

Available from EDRS.
Descriptors. "City Problems. "Elementary Education. Environment. 'Environmental Education. *Initructional Materials. *Units of Study 1Subject Fieldi). *Urban Studiei

Identifiers - Elementary Secondary Education Act

Title III. ESEA Title III

This is a simulation game and a part of the entronmental education profram developed by the Highline Public Schools The game emphasizes a city is formed, how it grows, where it develops, and some problems with which it must cope. It is designed to be used with elementary students in the intermediate gradet. The materials vere tried and evaluated, evaluation data may be obtained from the Highline Public Schoots. (RH)

ED 135 690 SO 009 790 King, David C., Ed. Long, Cathryn J., Ed. Patterns for Teaching Interdependence: Part A.

K-3 [And] Part B, 4-6. Global Perspectives: A Humanistic Influence on the Curriculum.

Center for Global Perspectives. New York, N.Y.; Denver Univ . Colo Center for Teaching International Relations

Spons Agency-Hazen Foundation. New Haven. Conn. National Endowment for the Humani-tiet (NFAH), Washington, D.C. Pub Date 76

Note-51p : For related documents, see SO 009 791.792

EDRS Price MF-\$0.83 HC-\$3.50 Plus Postage.

Teaching Curriculum Development. Educa-tional Objectives. Elementary Education. "Global Approach, Humanistic Education, In-Detesiptors_Class terdisciplinary Approach. International Rela-itom. Learning Activities. *Lesson Plans. Skill Development, Social Change, "Social Studies,

*Teaching Techniques
Identifiers—*Interdependence
Ideas for creating lesiont to introduce global perspectives on interdependence into the elementary social studies curriculum are presented. The booklet is intended as a companion to a series of guides for teaching sefected universal concepts to K-12 students Section Lintsoduces five lessons for use in grades K-3 Lessons stress the interdependence of the parts of the human body, groups such as the family, basic needs of people, and plants and animals. For each topic, performance objectives are specified and the teaching procedure is outlined Activities include question games, class discussion, role playing, mural drawing, story telling, and cooking, Section II suggests lessons for grades 4-6 Lessons stress the concepts of systems and mutual dependence on a global scale Performance objectives are specified for each topic and the teaching procedure is outlined Activities include simulations, drawing analysis class discussion, group role play, science activities, science fiction fantasiet, and group research Concepts and key ideas are stressed in each Jesson through suggested questions. Teacher reactions and lesson suggestions are sohested. (Author/DB)

.. ED 135 694 SO 009 798

King. David C . Ed Long. Cathron J., Ed Suzzestions foe Curriculum Development on Commuzication: Part B. 4.6. Global Perspectives: A Humanistic Influence on the Curric Number Three in a Series of K-12 Guides. Curetculum.

Center for Global Pempecuves, New York, N.Y.: Denver Univ. Colo Center for Teaching Inter-

national Relations,

Spons Agency - National Endowment for the Hu-manutes (NFAH), Washington, D.C.

Pub Date Dec 76

Sote-71p . For a related document, see SO 009

EDRS Price MF-\$0.83 HC-\$3.50 Piùs Postage. Descriptors—Clais Acuvities, "Communications, "Concept Teaching, Curriculum Development, Democratic Values, Educational Objectives, Elementary Education, "Global Approach, Orace 4, Grade 5, Grade 6, "Humanitic Education, Interface (Caton, Interface) (Caton, In cation. Interdisciplinary Approach. Learning engaphic and identifying the social enuses of

Activities, Lesson Plant, Skill Development, Social Change, Social Studies, Teaching Social Change, Social Str Guides, Teaching Techniques

A guide for infuting global perspectives on communication into the social studies currientum of grades 4.6. is designed to be used selectively by teachers. The four major objectives are to help students (1) understand how the world's syttem can influence the individual's life; (2) recognise different viewpoints. (3) develop an ability to make judgments about world influence on one's personal life, and (a) recognize that Personal ac-tions can influence world interrelatedness. Sec-tion I presents ideas for developing nine communtention activities. The activities involve language ikills, dialect investigation, cross-cultural communication, technological change, consumer educanication, technological change, consumer cutching and nn understanding of conflicting view-points. For each topic, areas of study are specified, objectives are listed, and teaching techniques are suggested. Section II presents sis settlecontained lessons which demonstrate how global perspectives fit in with the estiting curriculum. The lessons involve language exploration, verbal, and nonverbal communication, body movement, historical perspectives on communication, and people's feelings about animals. Multi-ple activities—tuch as dictionary games, simula-tions, story telling, TV viewing, and class discus-sion—are suggested for each fesson, along with a description of areas of study, objectives, suggested time, and required materials # subject indes is included. Teacher and reviewer comments are solicited (Author/DB)

ED 141 142 SF 022 664 Ships and Seaways. A Learning Experience for

Coastal and Oceanic Awareness Studies. No. 105. [Project COAST].
Delaware Univ. Newarks Coll of Education Spons Agency—Office of Education (DHEW). Washington, D.C.

Pub Date 74

Note-47p. For related documents, see SE 022 662-687

EDRS Price MF,50.83 HC-\$2.06 Plus Postage. Descriptori— *Elementary Education, *Instruc-tional Materials, *Language Arts, *Oceanology, *Social Studies, *Teaching Guides, Transportation. Units of Study

Identifiers-Project COAST, Ships

This unit for elementary school students (grade 5) provides materials for about five class peninds Emphasized are language arts and social studies activities related to ships and socialist. Activities include topics on common vessels, shipping routes, navigational guides, and art and writing related to field expenences. A number of transparency masters and a suggested book list are in-cluded (RH).

ED 142 488 SO 010 192

Stranus. Edward L The Cemetery: An Outdoor Classroom. A Student Workbook, Project KARE Edition.

Con-Stran Productions, Philadelphia, Pa., Project KARE, Blue Bell, Pa

Pub Date 74

Note = 35p. For a related document, see SO 010 EDRS Price MF-\$0.83 HC-\$2.06 Plus Postage.

Descriptors... *Ceath. Glementary Secondary Education, Environmental Influences, Field Erips, Human Geography, Interdisciplinary Approach. Junior High School Students. Language Arts, "Learning Activities, Mathematics, Mid-dle Schools, Sciences, "Social Studies, Student Attitudes. Student Projects, Crban Environ-

Twenty-seven activities are suggested for middie or junior high school students to perform while, visiting any tocal cemetery. The arrithmes make use of skills in mathematics, language arts. social studies, science, and environmental studies All activities require a pencil and a copy of this workbook Other materials for specific activities include camera, tape measure, and newsprint and crayons for making rubbings. Gravestone rubbings are not only enjoyable to make but they also aflow information to be transported in the classroom in its priginal state, Many of the activities involve students in recording birth and death dates, comparing ages of death of men and women during various periods. analyting

death such as war. An open-ended wintence completion activity encourages itudents in describe their feelings about denth and life goals after having spent some time in the cemetery number of activities with a science opentation involve the students in identifying and studying the plant and animat life within the cemeterly Parts of flowers are to be identified, scientific names of leaves are to be researched, and insect life is recorded Sketches or photos of plants, rocki, and animals are encouraged Classes well pave in make several trips to the cometers in order to ac-

ED 142 489 20 019 123 Stranct. Edward L. Fleishman, Mithael

City Street: An Outdoor Classroom. A Student Workbook. Project & ARE Edition.

Con.Stran Productions, Philadelphia, Pn., Project KARF, Sine Bell Pa

Note-36p., For a related document, see SO 010

EDRS Price MF-\$0.83 HC-\$2.06 Plus Postage. Descriptors - Elementary Secondary Education. Environmental Influences, Field Tops, Human Geographs, Interdisciplinary Approach, Junior Geographic Interdisciplinary Appendich aumer High School Studenty Lunguage Arts, Mearn-ing Activities, Vlathermatics, Middle Schoolly, Municipalities, Sciences, "Sicial Studies, Stu-dent Projects, "Urban Areas, Withan Environment. Urhan Studies

Fort) one activities are suggested for middle or junear high school students an perform while visitint a cay street. The actionies make use of skills in mathematics, language arts, excial undies, and environmental itudies. A pencil and a cipy of this workbook are essential, other materials required by some of the activities are a rape mea. sure, magnet, and tape recorder. The students can work individually or in groups to determine the following types of information about a city block, number of windows in houses, various building materials, length of sidewalk, scientific names of trees and Plants, services provided by stores and businesses, notices of different times of stores and pusinees, moses or university to the day, and safest or shoriest ways from home to school Creative activities include writing a poem about the smells and sounds or the city Nock. creating a radio commercial to show certain aspects of the black, interviewing testdents, intenting new uses for familiar, objects found on 4 the block, and mapping routes from one place to another. The authors recommend that a trip to a city street be arranged like a field trib, and that permission be obtained from school administra-ton and parents (AV)

ED 146 084

\$0 010 382

Fagan, James S.

Transportation and the Environment Student
Whekhook [And] Teacher's Answer Book to Student Workbook, Publication 74-3.

Georgia Univ. Athens Geography Curnculum Project. -84p: For related documents, see ED [13

222 and ED 120 036 Available from-Geography Curriculum Project,

Department of Social Science Education, 107 Duilley Hall, University of Georgia, Athens. Georgia 30602 (\$3.25, puper covers) DRS Price MF-\$0.83 Plus Postage, HC Not

Available from EDRS.
Descriptors—Answer Keys, Concept Teaching.

*Environmental Education, Environmental In-"Geography Instruction, Grude 7, Instructional Materials, "Mastery Learning, Mastery Tests, Physical Geography, Pollution, Secondary Educanon, "Social Studies, Social Studies Units, "Test Reviews, Tests, "Transportation, Work-

Identifiers...*Geography Curriculum Froject
The document offers a student workbook and a teacher's answer book to accompany a seventh grade geography unit on transportation and rise environmental impact (see ED 120 036 and 113 222). Two types of exercises are offered in the workhook a review sheet to be filled in by the workhook a review sheet to be filled in by the students after atodying a chapter and a findl-self-mastery test. The tests are keyed by page and paragraph to, the text. In the event a student masses an item on the formative test, he can restudy the keyed paragraph in the test, find the coffect response, and write the correct response in the workbook. The review theets direct stu-



dents to reconstruct models, define terms, list purposes, fill in blanks, and provide opinions and brief answers based upon information in the text. Optional activities are also suggested, such as measuring street noise, photographing transports tion facilities, taking polls, and charting family trips. The tests, which consist of from 10-20 questions, require the students to fill in blanks, rovide short answers, and give examples. (Author/DB)

ED 149 983 SE 023 452 Environmental Education, Values for the Futures. Environmental Ethies, Geades 6-8.

Ilknow State Office of Education, Springfield Agency-Bureau of Elementary and Secondary Education (DHFW-OE) Washington, D.C. Pub Date 77

Grant-10E-551-2-75

Note = 52p , For related documents, see SE 023 448-457 and SE 023 429-465, Page 9 "Composting Generates Heat remixed prior to being shipped to EDRS due to eopyright restrictions

EDRS Price MF-S0 83 HC-\$3.50 Plus Postage. Descriptore - Elenientury Secondary Education, - Environment, - Ethics - Instructional Materials, Interdisciplinary Approach, Fearing Ac-tifities, Middle Schools, Natural Resources, Science Education, Pleaning Guides, Values Identifiers-Elementary Secondary Education Act Title III

This bookles on environmental ethics is one of series in environmental education for grades' k-12 The concept of man's role is helping to preserve the natural surder and the importance of maintaining a pleasant emainment is presented in this book let for grades the base basic concepts are listed, along with the behavioral objectives. subject areas, Lee words and definitions as-sociated with each Teachers and students are given three activity options for each basic coneept. Information for their activities foetudes materials and responses needed, procedures. discussion questions, further activities, and cample worksheets (MA)

ED 149 985 SE 023 454 Faciconmental Education, Values for the Future:

Economies Grades 6-8.
Illimus State Office of Education, Springfield.

point Agency-Bureau of Elementary and Secondary Education (DHEW/OE), Washing, 100, D.C

Grant - (OE.551-2-75

Note = 32p For related documents, see SE 023 448-457 and St. 023 459-465. Contains occa-FDRN Perce Att-S0.83 HC-\$2.06 Plus Postage.

Descriptors - Descrion Making Skills, *Leannames, *Llementary Secondary Educa-tion, *Ensironmental Education, *Instituctional Material, Interdisciplinary Approach, Middle Schoots, Social Studies, "Teaching Guides. Lechnology Natura

Mentifiers-Elementary Secondary Education Act

Title III This booklet on economics is one of a series in environmental education for grades K-12. The acticines in this bookler are concerned with the retationship of the standard of living to the level of technology and economic system developed by a wicies. They cold of economics in determining encironmental quality is also estessed. Three basic concepts are listed, along with behavioral objectives, subject areas, key words, and definiunder the have concepts information for these activities includes materials and resources. procedures discourin questions, further action. free, and sample worksheete. The aerivities are interdisciplinary and designed for students in grades 6-8 HMA1

50 010 684 ED 150 079 Maryland Today: An Elementary Social Studies L'olt.. % Monigomery County Public Schools, Rockville,

Pub Date 77 Descriptors-Cognitive Objectives, Cultural Edueation. Curriculum Guides, Educational Objec-

tices. Elementary Education, "Environmental Education, Evaluation, Geography Instruction, Grade 4, Inquiry Training, "Learning Activities, Map Skills, Measurement Techniques, Performance Criteria. Resource Guides, Skill Development, Social Studies, "Social Studies Units, "State History, Teaching Techniques Identifiers - "Mary land

This instructional guide suggests a way for teachers of fourth grade students to organize a social studies unit related to the study of Maryland. The eight to ten week unit is divided into four sections. Section I, a general unit outline, presents organizing concepts and questions, instructional objectives, and suggested topics for study. Section II considers the important geo-graphical features of Maryland, Section III eeamines how people in Maryland can preserve the environmental quality of their state. Section IV focuses on Maryland's cultural Heritage and suggests ways in which the people of Maryland can preserve their heritage. For each topic, a two-pact format is followed First, a class discussion is outfined Questions are listed and correlated instructional supports to be used by the teacher are described. These include use of flash cards, maps-globes, bulletin boards, art materials, and the blackboard. The second part lists student pecformance objectives, activities and procedures, assessment measures, and resources Learning aetivities involve students in map, globe, and compass exercises inquiry questioningleechinques, il-lustration analysis geographic feature model making class and panel discussions, educational games theatrical presentations, class reports, and field trips. A directors of resource material on Standard lists books, filmstrips, maps, television series, and transpatenetes. (Author/DB)

ED 151 297 SO 010 782 Energy Activities for Junior High Social Studies. Minnesota State Energy Agency, St. Paul

Pub Date Ape 77 Note = 36p - Not mailable in hard copy from EDRS due to poor reproducibility of original document NF-S0.83 Plus Postage. HC Not

Available from EDRS.

Available from F.Dr.S.

Descriptors—Activity Learning, *Activity Units,
Community Attitudes, Consumer Education,
Cultural Differences, Decision Making Skills,
Educational Ganies, *Energy, *Energy Conservation, Environmental Education, Fotures (of Society), Grade 7, Grade 8, Group Activities, Information Editation, "Instructional Materials, Interdisciplinary Approach, Junior High School Students, Life Style, Personal Values. Problem Solving, Science Activities, Science Instruction, Science Units, Simulation, Social Problems, Social Studies, "Social Studies Units, Student Attitudes, Student Opiniun, Student Reaction

the document contains seven fearning activi-ties for junior high students on the energy cituation Objectives are to help studente gain understanding and knowledge about the relation-ships between humans and their social and physical environments solve problems and clarify is-sues, esamine personal beliefs and values, and recognize the relationships between beliefs, values, and individual behavior. In the first units For Pear's Side," social studies and science reachers cooperate. In these experimente the heat value of peat is compared to other materiale and it is suggested that peat be used for energy production. Students collect information about the energy situation in the second unit. They play an energy game and decelop a questionaled to sample student and community opinions about sacres, the third unit, "Implication," is a fool which helpe students examine precibilities, com pleastice, interrelationships, and implications of trends and immissations in the other four onits studente compare the differencee energy has made in lifestyles, consider the implications of alminor in increpies, consider the implications of alternative living ac energy conservation, discuss what they live and hate about power/energy, and explain the future in terms of their own life taylee (Author/JK)

SO 011 027 Bringing Energy to she People: Wachington, D.C. and Chang. Grades 6.7. Inteedisciplinary Six. deat/Teachee bioterists in huerny, the Environand the Feenomy. National Science Teachers Association, Washing.

ion, I) C Spons Agency-Office of the Assistant Secretary for Intergovernmental and Institutional Relations (DOIs), Washington, D.C. Business and Labor Affairs.

Report No-HCP/U3841-0006 Pub Date Feb 78 Contract = RX-76C-10-3841

Nute—69p., For related documents, see SQ Q1 t 028-030, Best copy available

Available from—U.S. Degartment of Energy.

Technical Information Office, P.O. Bos. 62.

Oak Ridge, Tennessee 37830 (free, paper

cover) EDRS Price MF-\$0.83 Plus Postage, HC Not Assilable from EDRS.

Descriptors—Class Activities, *Comparative Analysis, Gross Cultural Studies, Elementary Analysis, Cross Curtural Studies, Elementary Secondary Education, "Energy, "Energy Conservation, Grade 6, Grade 7, Graphs, Interduciphnary Approach, Intermediate Grades, Junior High Schools, Lesson Plans, Map Skills, Physical Geography, Sciences, Social Studies Units. Leacher Developed Materials, "World Geography ldentifier District of Columbia.

Lors instructional unit contains four elastroom lessons dealing with energy for use in grades sis and seven. The overall objective is to provide students with a comparative overview of two basic energy concepts energy is a basic need in all cul-tures, and energy use affects the way people live In the lesson, which can easily be integrated into studies of world cultures and physical geography of the world, students compare, Acera, Chang with the Washington, DC area in terms of eliwith the Washington, D.C. area in terms of elimate, geographic location, energy dependence,
and services that meet their needs. The four lessons developed by teachers are (11 A Geographical Picture of Two Cities, (2) Tracing the
Sources of Electric Power in Ghana and in the
Washington, D.C. area, (3) Two Transportation
Systems. How Are They Alike? How Are They
Different, and (4) How is Electricity Used in
Two Different Cultures? The second lesson can
also be taught in seience eduracs. Students conalso be taught in seience courses. Students con-atruct climagraphs, analyze and interpret (4ct. theet maps and bar graphs, answer questions about highway and road maps, and examine case studies. A time allotment varying from one to four classes for each of the four lessons is suggested, but will probably vary depending on student interest and ability. Each lesson contains complete teacher and student materials background information for the teacher on the topic under study. (Author/RM)

ED 157 818 SO 011 028 An Energy History of the United States, Grades 8. 9. Intecdisciplinary Student/Teacher Materials In Energy, the Environment, and the Economy. National Science Teachers Association, Washing. ton, D.C.

Spons Agency—Office of the Assistant Secretary for Intergovernmental and institutional Relations (DOF), Washington, D.C. Education, Business and Labor Affairs

Report No-HCP/U3841-0004 Pub Date Jan 78

Contract _EX-76C-10-3841

Ontract = 1.70c | For related documents, see SO 011 027-030; Hest copy 4-vallable

Available 'from U.S. Department of Energy, Technical Information Office, P.O. 80c 62, Oak Ridge, Tennessee 37830 (free, paper

FDRS Price MF-\$0.83 Plus Postage, HC Not Available from EDRS.

Descripture—Class Activities, *Frietgy, Frietgy Conservation, Grade 8, Grade 9, *Interdisciplinary Approach, Lesson Plane, Mathematics, *Natural Resources, Sciences, Secondary Education, Social Studies Units, Jeucher Developed Materials, *United States Materry

This instructional unit contains eight classroom lessing dealing with a history of energy in the finited States for use in grade eight and nine so-cial studies, science, and mathematics equipes. The lessins were descriped by trackers. The operall abjective is to help ctudents understand the Present necessity to spenaming and perhaps affer not present effergy patterns Students fieldy about the impact that the different types of ener-

go used framasidanial times as the present have had ion to S. culture and learn about the physical properties of wood, end, and oil, pattentarly about the ability of these substances to give heat the delicities in which students are involved include answering offestions hased in short reading whentime, gathering and interpreting materials from a picture, comparing the uses of energy by sometimes farm family and by a family of today, constituting a can calcumeter, learning how to determine, the energy content of wood, applying the principles of sewnific moleration to energy data, constructing and interpreting graphs, making a model of a steam turbine, and learning how to determine the heat content of oil. The amount of time needed to teach each lesson values from one to four elaurgom periods bach tesson is self. contained, and includes instructions for the leacher and student materials. The eight lessona are organized (ato three units (1) America's Wooden Age (1650 1820), (2) The Coming of Coal (1840 1920), and (3) Oil Bright Promise (1880-present) (Author/RM)

ED 157 819 Earry in the Global Marketpiece Grades 9, 10, 11, loter disciplinary Mudant/Teacher Mattrials in Energy, the Environment, and the Economy. National Science Teachers Association, Washing-

Spons Agency-Office of the Assistant Secretary
for Intergovernmental and Institutional Relations (DOE), Washington, D.C. Education, Business and Labor Affairs

Report No-HCP/U3841-0007 Pub Date Mat 78 Contract-EX-76C-10-3841

Note-54p. For related documents, sec 50 011 027:030. Best copy available
Available from-U.S. Department of Energy.

Technical Information Office, PO Box 62, Oak Ridge, Tennessee, 37830 (free, paper

EDRS Price MF-50.83 Plus Postage. HC Not Available from EDRS.

tion, Economics, *Energy, *Global Approach. Grade 9, Grade 10, Grade 11, Lesson Plana. Secondary Education. Social Studies Units, Teacher Diveloped Materials. World Geog.

raphy. This instructional unit contains six classroom lessons in which 9th, 10th, or 11th grade social studies students examine the effects of competistudies students and world regions as demand for oil outstrips supply. The overall objective is to help students understand the concept that energy is a commodity to be bought and sold like any other commodity but in a marketplace that is a global one. The lessons were written by teachers and can be integrated into social studies, economics, world history, contemporary usues, and world geography courses. The lessons are (1) Why Some Nations Use More Energy, (2) Energy Who Has It, Who Needs It? (3) From Those Who Have To Those With Want The Oil Trade Routex, (4) What If Everyone Wants More? (S) Retrodullars The Problem of Too Much Money, and (6) The Oil Price Game of Escrybody Plays (A Simulation of The World Market for Oil) The activities in which students are involved include and one of the world. are involved include analyzing maps, graphs, and charts, answering questions based on short read. ing selections, and playing games. Fach lesson can be taught in one classroom period. All teachers and student materials are included. (Author/RM)

SO 011 046 ED 157 834 Indian River County Environmental Education to-alructional Guide, Language Arts and Social Studies, Sisth Grade. Florida State Dept, if I docation, Tallahassee.

ulti-39p, for related documents, see SO 011 047,049. Not available in hard enpy from FISRS due to pour reproductibility of parts of the inflemal discument

Available from a Office of Presimmental Fouca-tion, Department of Louisium, Knott Building, Tallahassec Florida 22308 (nn kisn)
EDRS Price MF-50.83 Plus Poataga. HC Not
Available from EDRS.

Descriptors ... Biological Sciences, Teaching, *Conservation (Environment), Prology, Elementary Education, Environment, *Environmental Education. Grade 6, *Language Arts. *Learning Activates. Natural Resources, Pollution. *Population Trends. So. cial Factors. "Social Studies, Teaching Guides, Water Pollution Control, Wildlife Management

The guide is one in a series for teachers, students, and community members to help them will. dents, and community members to help them willize community resources in developing and
teaching environmental concepts, responsibility,
and problem solving This particular guide
focuses on social titudies and language arts
aspects of environmental education for with graders Background information and activities are based on the Indian River County environ. ment in Florida. An introduction explains that there are five forest types in the county, which is a seeme and recreation area. Ten major areas of environmental and human concern in the county include water pollution abatement, solid waste disposal, and rare and endangered habitats En-dangered and threatened wildlife are identified. Section one presents 13 social studies activities based on two major concepts ()) as population increases, its effects on the environment change. and (2) although resources are finite, there are almost infinite deniands on those resources Ac. tivities involve creation and observation of terracium life and simulation of different community members' water needs. Section II presents six language arts activities based on the concept that as population increases, its effects on the environment become more pronounced Activities include calculation of hirth and death rates, and writing poetry about ecology. A concluding secing educational field trips (AV)

SO 011 047 ED 157 835 Indian River County Environmental Education Instructional Gulde, Social Studies, Seventh Ccade.

Florida State Dept of Education, Tallahausee. Pub Date 7S

Note-40p. For related documents, see SO 011
046-049. Not available in hard copy from EDRS due to poor reproducibility of original document

Available from-Office of Environmental Education, Department of Education, Knott Building, Tallahassee, Florida 32304 (on loan)

EDRS Price MF-10.83 Plus Postage, HC Not Available from EDRS.

ological Sciences, *Concept *Conservation (Environment), Descriptors - Biological Teaching. Ecology, Environment, *Fnvironmental Educa. tion, Grade 7. Individual Power. Land Lae, *Learning Activities, Natural Resources, Pollution. Population Trends. Secondary Education, Soc Technology

The guide is one in a series for leachers, students, and community members to help develop and teach environmental concepts, responsibility. and pathlem solving. It prevents concepts and activities related to environmental education for seventh grade sessal studies classes. Background information is based on the Indian River County The introduction environment of Florida The introduction describes the county's forest areas, its endangered wildlife, and areas of local environmental citysem. The main portion of the guide contains 21 activities hased on three main acrossops. These concepts emphasize the relationship between population size and demands upon natural resources, and each individual a role as an agent har change in the enautopment. Activities marries role play, research into becar and foreign use of drimeate and imposted products, ereation of maps showing location or the world's mineral resources, and dehate over the advantages and disadvantages of technological constructions such an interstate highways, condominiums, and ikyserapers (AVI

SO 011 048 ED 157 836 Indish River County Environmental Education In-atructional Guide, Social Studies, Fighth Grade, Florida State Dept. of Education, Tallahassee Pub Date 75

Note hap, for related documents, see \$0.011 84h.4149, Ned available in hard empy from discontent

Available from -Office of Environmental Educa-tion, Department of Education, Knott Building, Tallahassee, Florida 32304 (on Ivan)

EDRS Prica MF.50 8) Plua Postage, HC Not Available from EDRS.

Descriptors—Biological Sciences, *Concept Teaching, *Conservation (Environment), Ecology, Environment, *Environmental Educa-tion, Grade 8, Land Use, *Learning Activities, Natural Resources, Poliution, *Population Trends, Secondary Education, Social Problems. Social Studies, Teaching Guides

The leaching guide present social studies activities for eighth graders to learn about environmental concepts, problems, and responsibilities Pan of a series for teachers, students, and community members, it is based on the Indian River County environment in Florida. The introduction identifies the county's natural resources, wildlife. and issues of environmental concern The activities are based on concepts emphasizing the interdependence of all living things and the effects of consistion growth upon the environment Some of the activities focus on local problems of Indian River County For example, students consider the territorial needs of endangered toecies and examine ways in which modern society changes or destroys their habitats. Other activities involve identifying material goods for which settlers moved west, discovering differences in American Indians' and white settlers' use of natural resources, and exploring causes of wars between nations. Students also discuss pollution caused by industrial waste and population density Appendices contain outline maps of the United States and Europe to be used in making transparencies for some of the activates (AVI

SE 025 444 ED 162 905

Lent. Judish And Others America's Wild Horses "Filting 'Em In": A Social Studies Subject for Upper Elementary Students.

Teachers Guide. Buteau of Land Management (Dept. of Interior). Washington, D.C. Pub Date-Jul 78

Pub Date—301 78
Note—42p., Activity poster removed prior to being shipped to EDRS for filming
EDRS Price MF-50.83 HC-52.06 Plus Postage.
Descriptors—Biological Sciences. Conservation
Education. *Ecology. Elementary Secondary
Education. Environment. *Environmental Education. *Horses, Instructional Materials, Land
**Mothers Profilerer Scool Studies Teach cation. *Horses. Instructional Materials. Land Use. *Natural Resources. Social Studies. Teach-ing Guides. *Wildlife Management Identifiers—*Burros

This learning package is designed to portray to upper elementary and juntor high school students the carious factors influencing the relationship of wild horses and burros to their environment in the Western United States Protested by the Wild and Prec-Roaming Horse and Burto Act of 1971, the thousands of protected horses and burros pose a challenge to government leaders, land managers. ranchers, and estizens as they consider methods for managing growing herds on public lands Discussed are the role of wild horses and burros in Western history, their relationship to their ecosystem the need for management, and management alterna-tives and land use decisions. The package includes a teacher's guide and selfenty poster It is do igned to be used with the film "Dapples and Grays I into and Bays." and a children's story. "Thank You for Helping Us." (RE)

SO 011 417 ED 164 414 Heteman, Walliam Ray America's Maritime Heritage: From Sail Power to

Suclear Power, Book I and Book 2. An Energy Education Activity Book [And America's Maritime Heritage: A Frequently Forgotten Treasure. Con-Stran Productions, Philadelphia, Pa

Note - 45p. Photographs throughout document may not reproduce clearly

EDRS Price MF-S0.83 HC-52.06 Plus Postage. Descriptors—Changing Attitudes, Class Activates, Elementary Education, Energy Conservation, "Environmental Education, "Interdisciplinary *Environmental Education. Approach. Natural Resources. Social Studies. *Unit Plan. *Water Resources

These documents provide background information and a series of problems and aphicities to famile tanze students with important magning activities in the United States Book I contains problems insules ing the movement of freight on/infand waterways. questions on energy and the environment and a chart with questions on toxical States oil imports. Book II features information on hydroelectric

power, water transportation, and energy consumpnon. The third book traces the history and influence of the sea on America and discusses shipbuilding. trading, commercial fishing, lessure time, and the arts. The growing interest in marine science and the development of maritime Parks and museums are noted. Annotated, lists of perinent periodicals. books, pamphlets, and films are included (KC)

ED 186 315 SO 012 549 The Energy Dome, Social Studies Packet-Grades 4, 5, 6,

National Science Teachers, Association, Washing-

ton, DC.

ton, D.C.

Spons Agency—Department of Energy, Washington, D.C.; Office of Consumer Affairs, Washington, D.C.

Report NO.—DOE/CA/06083-03

Pub Date—Apr 80

Contract—EC-77-C-01-6083

Note—106p.. For a related document, see SO-012

550

Pub Type— Guides • Classroom • Tescher (1952)
EDRS Price • MF01/PC05 Plus Possse.
Descriptors—Class Activities Decision Making
Skills, Elementary Education, • Ensign. • Energy
Conservation, Fuel Consumption, Fuels Grade 4. Grade 5. Grade 6. Intermediate Grades, Lesson Plana, Natural Resources, Plastics, *aocial Stu-dies, Teaching Guides, Units of atudy

This teacher's guide contains a unit of study for teaching about energy in grades tout, five, and six. The guide is self-contained and includes the fact sheets students need to work out the activity Froblems. The unit is organized stound the theme of the domed athletic stadium. The students beam by surveying the energy it takes to travel from their-homes to the stadium and to operate all the macranes that heat, cool, and light, the huge 4rens. These energy users are then related to the sources from wruch the energy is refined or processed. After students discover the great samery of durer uses of energy and the growth in the demand for more tossit tues based power, they turn to a study of different indirect uses f oil for which the plastics industry serves as an example. Artificial rurf provides the organizer for this section as students study the Processing steps involved in making it. The impact of the gap between U.S consumption and production of oil and natural 'gas is explored in a pullzie-like schirty which provides students with data and requires that they make personal decisions about conserving our increasingly, limited supplies of oil and natural gas Inconcluding unit, students use a set of fact spects. on three alternative energy sources for the future and are asked to make a decision about using high-cost fuel to heat a stadium. Teacher backSround information on energy is also included in the guide. (Author/RM)

SE 030 941 An Energy Curriculum for the Middle Grades, Unit Two: Energy and American History With Adaptations for Science, Language Arts, Practical

Indiana State Dept of Commerce, Indianapolis En-ergy Group, Indiana State Dept of Public In-struction, Indianapolis Div of Curriculum.

struction. Indianapolis Div of Curriculum.

Spons Agency—Department of Energy, Washington, D.C.

Pub Date—Apr 80

Grant—BE-FG-45-79R510071

Note—174p. For related document, see SE 030

940 Contains occasional light and broken type.

Pub Type—Guides—Classroom—Learner (051)—

Guides—Classroom—Teacher (052)

EDRS Price—MF01/PC07 Plus Postage,

Descriptors—"Class—Activities,—"Curriculum—Guides, Elementary Secondary Education, Energy, Conservation, Fuel Consumption, Fuels, "History, Interdisciplinary Approach, Natural Resources, Public Policy, "Science Education, Social Studies, Technology, United States cation, Social Studies, Technology, United States History Identifiers—Energy Education

This guide is intended to integrate energy education into the curriculum of the middle school grades. It contains a rationale, a detailed introduction in-It contains a rationale, a detailed introduction in-fluding a teacher's guide, glossary, and bibliogra-phy, a teacher's guide to a cartoon book, and separate teacher's entries and student entries for various eras of American history. The subjects dis-custed in the various sections include, (11 Energy and Colonial America, (2) Energy and Industrial-ism, and (3) Energy and the Post War Period, (RE) ED₄194 440 SO 012 989 Myers, Richard S. Myers, Harnet B. Energy Awareness Resource Unit for Intermediate

Grades Pub Date-80

Pub Date—40
Note—44p
Pub Type— Guides - Classicom - Teacher (052)
EDRS Pricey MF01/PC02 Plus Postage.
Descriptors—*Conservation Education. Educational Objectives. Elementry Education. *Energy Conservation. Evaluation

*Energy Conservation. Evaluation

*Executive Conservation.**

Conservation.

Conservation. tional Objectives. Elementary Education. Evaluation Methods. Futures (of Society). Grade 4. Grade 5. Grade 6 Interdisciplinary Approach. Learning Activities. Lesson Plans. Minicourses. Natural Resources. Science Curriculum, Social Studies. Teaching Methods. Units of Study.

This instructional package suggests objectives. active teaching Methods.

into instructional package suggests objectives. Activities, and evaluation methods for use in an elementary school minicourse on chergy. Objectives are to help students become aware of the present energy situation and to make more infelliguat energy-related decisions in the future. Activities anyone language arts, science, math. Social studies, air. mulanguage arts, science, math, social studies, art, music, and drama. A period of several weeks is required to complete all suggested activities and evaluation provedures. The document is presented in seven major sections. Section I introduces the unit Section II outlines major topics-alteration of lifestyles, energy yonservation, population pressures. Phorities for energy use, and new sources of energy Section. III hists objectives. Section IV describes pre-assessment activities. Section VI (the bulk of the document) describes a variety of learning activities including group projects, creating an energy inforincluding group projects, creating an energy infor-mation center, planning an energy fair, working on art projects surveying friends and family, regarding energy use, drawing energy-use time lines, and cal-culating energy consumption of various household appliances Section VI suggests evaluation methods including observation and self-assessment ahrough discussion. The final section lists materials and reading assignments required for various activities. The document concludes with an appendix comaining a student evaluation log, a participation chartand background information on energy. A bibliogra-phy is also included. (DB)

ED 196 788 SO 013 072 Resources for Using a Global Approach in Elementary Social Studies TeachERIC Resource Series, No. 2, Jes, No. 2. ERIC Cleaninghouse for Social Studies Social

Science Eduvation, Boulder, Colo , Social Studies Social Science Education Consortium Inc. Boulder, Colo Spons Agency—National Inst. of Education (DHEW), Washington, D.C. Report No—ISBN-0-89994-248-2

Pub Date-80

Contract_400-73-0006

Note-18p

Available from—SSEC Publications, Social Science Education Convention, \$53 Broadway, Bedder, CO 80307 (\$9.95 for the series, not sold individu-

Pub Type- Information Analyses - ERIC Information Analysis Products (0°1) - Refetence Materials - Bibliograph es (131) EDRS Price - A1F01, PC01 Plus Postage,

EDRS Price - MF01, P.01 Plus Postage,
Descripiory - Annotation in allographies, Elementary Education, "Global Approach, Resource
Maioriage, "Social Scioler
This annotated biolography one of four separate
resources in the Teach ERIC Resource Series
cites materials that will be a elementary teachers
inserporate a global approach into social studies instruction. All materials listed are available through the ERIC system and in vernal articles. The pur-pose of the Series is to help familiarize teachers with pose of the series is to help familiarite teachers with the ERIC System and what it can do for them. The sationale for teaching along global studies is that there is a critical need for Preparing entitler for living in a world characterised by global interdependence and sumpley interfectionomies. The kind of information provided in the bibliography includes how to implement authorize ducation proincludes how to implement applical education program units of study feat, ing guides, and descriptions of global education progress the bibliography is organized into two major parts, the bibliography is organized into two major parts, the first part vites journal articles, the second part lists ERIC documents. Within each part, the citations are agranged in chronological order by their ERIC secession numbers. The grade level applicability range for each resource is indicated along with its satisfiability in microfiche pager copy or both information about ordering or obtaining assess to journal assicles and other features as principed in a brief introduction to each part, (Author, RVI)

ED 197 997 SE 034 178 Histor) of Energy, Eas) Lucray Reader, Book II. Information Planning Associates, Inc., Rockville.

Spons Agency—Department of Energy, Washington, D.C. Office of Consumer Affairs

Report No —EDM-1138

Pub Date—May 80

Contract—EU-78-C-01-6497

Acte—*3p. For related documents, see SE 034

1***-180 Photographs may not reproduce well

Acceptate from—Decartment of Energy, Technical Available from-Department of Energy. Technical Insotration Center, P O Box 62, Oak Ridge, TN 31830 (free)

Pub Type-Guides - Classroom - Learner (051) - • Guides - Classroom - Tescher (052)

Descriptors—Content Area Reaging. Energy, Environmental Education, *Interdisciplinary Apetoach Juniof High Schools, *Reading Misterials, *Seience Education, Social Studies, Technology cal Advancement

Presented are five articles on the history of energy and now it has come to play an important tole in people's lives. Designed for the Junior high school targuage arts curriculum, each article is stored for tescapility according to the Gunning Fog Index By fererring to these ratings, a teacher can provide stu-Gents with increasing.) more challenging feating ms'erisi Among these articles are. (1) How Does Energy Contributonto Our Way of Life, and (2) Enerev and Doubling Time. Also included are a glossary of energy terms and a list of related readings. This is the second in a senes of four books on energy. (WB)

Energy: What Can We Do Right Now? Easy of Energy Reader, Book III.
Information Planning Associates, Inc., Rockville,

Md.
Spons Agency—Department of Energy, Washington, DC Office of Coosumer Affairs
Report No.—EDM-1139
Pub Date—May 80
Contract—EU-78-C.01-6497
Note—67p, For related documents, see SE 034
177-180 Photographs may not reproduce well
Available from—Department of Energy, Technical
Information Center, PO Box 62, Oak Ridge, TN
37830 (free) 37830 (free)

37830 (free)
Pub Type—Guides - Classroom - Learner (051) —
Guides - Classroom - Teacher (052) — Opinion
Papers (120)
EDRS Price - MF01/PC03 Plus Postage.
Descriptors—*Content Area Reading, *Energy,
*Environmental Education, 'Interdisciplinary,
Approach, Junior High Schools, Opinions,
*Reading Materials, Science Education, 'Social
Studies' Studies

Highlighted in this collection of five articles on the nation's energy problems are the viewpoints of blash propies environmentausis consumers, and utility executives Auso included is a group of state-ments to help the reader develop a personal energy policy, intended for junior nigh school language arts classes, this is the third in a series of four books on energy. Each article is rated for readability according to the Gunning Fog Index. By referring to these scotes, a teacher can provide stones, with increasing, more chairenging reading material. An energy glossary and list of related readings follow the articles (WB)

ED 199 120

SO 013 150

Miller Birbara Ed Thinking Globally, Acting Locally About Food, Pupulation and Fostgy Issues Seventh Grade Interdistiplinary Unit.

Autora Public Schools, Colo
Spons Agency—Denver Unix, Colo Center for
Teas hing International Relations
Pub Date—19

Note-306p. Not available from EDRS in paper sopy due to marginal leg bility of the original document Some gages will not reproduce eleatly adsiloteim in

Available from Autora Publis Schools, 1985 Peroria Siteet, Autora, CO 50011 (So 00)
Pub Type-- Guides, - Classicom - Feaunet (052)
EDR5 Price - MF01 Plus Postage, PC Not Available.

ble from LDRS...

Descriptors—Developed Nations Descriptors Na-tions, "Energy "Food "Global Approach Grade "Junior High Schools Junior High School Stu-dents Learning Activities "Population Educa-tion "Social Studies Teaching Methods "Units of Study World Problems

This social studies unit suggests activities and teaching methods for use by seventh grade social studies classroom teachers as they develop and amplement educational programs on global food, population, and energy problems. Objectives are to help students become aware of global interdependence. identify foles of Nations nations in Rausing and soicing problems related to food and population, and develop skills in gathering and analyting data regarding would problems. The document is presented in seven sextions. Chapter I suggests activities which introduce students to global interdependence and to differences in life styles between developed and developing institute. Fludents are involved in a variety of activities including determining nems es-sential to a good life, working with maps and globes creating bulietin obards and collages answeing questions on worksheets and discussing global issues in small groups and in class. Chapters If through is present activities which locus speaking cally an population, food of energy Activities involve case studies, data sheets time lines, simple computation problems, and map and globe work Chapters V and VI etter culmination activities and supplemental projects. Neudents are directed to pull together background internation and skills gained through Participation in earlier course activities Speedie activities and projects to which they are involved include producing a filmstrip making posters and our etin obards progring energy tools out of classroom junk discussing food and energy sources and diagramming energy issues. For all actruttles suggested in the document, information is presented on title, background objectives, time and materials required, skills, focus and procedures (D,B)

ED 209 125 SO 013 647 hason, Jacquelyn Benegar, John

jobal Issues ain the Intermediate Classroom, Grades 5-8.

ERIC Clearinghouse for Social Studies/Social Seience Education, Boulder, Colo.: Social Science Education Consomum. Inc., Boulder. Colo Spons Agency—National Inst. of Education (ED). Washington. D.C. Report No.—15BN-0-89994-265-2

Pub Date—81 Contract—400-78-0006

Contract—400-78.0006
Note—150p: Some handouts may not reproduce clearly from EDRS in paper copy or microicne.
Available from—Social Science Education Consortium. Inc., 55EC Publications, 855 Broadway, Boulder, CO 80302 (58 95).
Pub Type—Guides • Classroom • Teacher (052) — Information Analyses • ERIC Information Analysis Products (071)
EDRS Price • MF01/PC06 Plus Posiage.
Descriptors—Cross Cultural Studies, • Cultural Awareness, • Global Approach, Intermediate Grades, Junior High Schools, Learning Activities.

Grades, Junior High Schools, Learning Activities, Social Studies, Teather Developed Materials, World Affairs, World Problems

This publication contains teacher developed activides for teaching about global issues in grades 5.8. The self-contained activities are organized into three major parts. Part I. Global Awareness," in troduces students to the concept of global education. Students are made aware of the nature of the world and the part they play in it assumabiliants of the Planet. For example, the activity "Global Con-nections." involves students in interacting with one another to discover how their class is connected to the rest of the world. Using a bingo game format, students look for classmates who fit appropriate squares on their same sneets. Each square represents a certain kind of "global connection."

Through the activities in Part H. "Global Interdependence." students learn that they are connected to other people and countries in confiless ways and that they have learn that they are connected to other people and countries in countries. ways and that these links exist across cultures as well as time and distance. In the "Peanut Butter Crunch" activity, students examine the effects of the drought of 1980 on the manufacturing of peanut butter. Because of the drought and the string of the peanur import quota, the United States began to import peanuts from China, India, and Argentina. in other activities, students examine the relationship between the United States and oil exporting

namous, variations in the pince of gasoline, and mu-tinational corporations. Part III contains activities designed to teach cross cultural understanding Setsdents analyze the news for violations of human rights and examine the McDonald's fast food restaurant chain as a worldwide phenomenon. Retated resources in the ERIC system are cited. (Author/RM)

ED 215 923 SO 013 984

Barrett. Junelle P And Others" Teaching Global Awareness: An Approach for Grades 1-6. Global Awareness Series.

Denver Univ., Colo. Center for Teaching International Relations

Spons Agency—Denver Univ. Colo. Graduate School of International Studies, Denver Univ. Colo School of Education Pub Date-81

-165p; Colored pages may not reproduce clearly

Available from—Center for Teaching International Relations, University of Denver, Denver, CO 80208 (519 95 plus 52 00 postage and handling) Pub Type—Guides—Classroom—Teacher (052) EDRS Price—MF01 Plus Postage, PC Not Available from EDRS.

Descriptors-Cultural Awareness. Pescriptors—Cultural Awareness, Elementary
Education, Environmental Education, *Global
Approach, *Language Aris, Learning Activities,
Population Education, *Reading Instruction, Skill
Development, *Social Studies

The activities on global awareness in this guide are designed for use in elementary grades in social stu-dies, reading, language arts, and creative arts courses. The activities are organized into four major sections each of which addresses a specific goal. The four goals are '(1) to learn to recognize the intercon-nection between one's own life, one's society, and major global concerns such as environment, populamajor global concerns such as environment, popula-tion, resources, and human rights. (2) to develop an understanding of basic human commonalities while recognizing the importance of individual and cul-tural differences. (3) to develop an awareness of how perceptions, values, and priorities differ among various individuals. Broups, and cultures; and (4) to develop the skills that will enable students to respond creatively to local, ustonal, and international events and to participate effectively at those levels. Examples of activities include having students collect pictures from magazines that depict the global lect pictures from magazines that depict the global effects and problems of Pollution, interview community persons about langes that have occurred over the years, read tack tales, and celebrate holidays of different countries. (Author/RM)

ED 215 926 SO 014 002

Bock. Judith' And Others
Coming to Our Senses: An Environmental Approach to Teaching at the Elementary Level. Second Edition.

Centre for Environmental Education, Montreal (Quebec). Pub Date-75

Note-64p.

Note-64p.

Available from—STOP. 1361 Greene Avenue.

Montreal. Quebec H3Z 2A5 (5200)

Pub Type— Guides Classtoom Teacher (052)

EDRS Price—MF01/PC03 Plus Postage.

Descriptors—Childhood Needs. Consumer Economics. Elementary Education. *Environmental Education, Learning Activities, Sensory Expenence, Tactual Perception, Visual Perception

This booklet contains activities and teaching suggestions that will help elementary students become aware of their environment. It will help teachers foster among their pupils an understanding teachers foster among their pupils an understanding of their place in nature, a sense of wonder, a reverence for life, thoughtful use of resources, and the realization that the earth is a home to be shared. There are four parts to the booklet. Part I deals with "The Child's Sensory Awareness." Activities involve students in looking, listening, touching, tasting, and smelling "The Child as a Part of Nature" is the topic of Part II. Activities help students understand their havis needstair water food abelier and stand their basic needs-air; water, food, shelter, and interdependence. Discovery projects in the class-room involve students in maintaining an aquarium. growing plants, and observing the behavior of animals. Students are also involved in field trips to weather stations, filtration plants, supermarkets, and animal shelters. Part III treats "The Child as a User." Children discuss topics such as bicycles, clothing, and soft drinks and visit museums, a public history. library, and a newspaper publishing company. "The Child in the Community" is the topic of Part IV.

Students are involved in discussions about sharing in the family and home, at school, in the neighbor-hood, in their country, and in the world. The last quarter of the booklet contains a film list, a teacher's resource list, and a children's reading list. (Author/RM)

ED 216 081 UD 022 267 Living Together in Newark. A Curriculum for the Study of the City of Newark. New Jersey, in Third Grade.

Newark Board of Education, NJ, Dept. of Curriculum Services

Note-64p. Not available in paper copy due to in-stitution's restrictions.

Available from New ark Board of Education. Cur-neulum Development and Materials. 2 Cedar Street, Newark, NJ 07102 (white for price). Pub Type—Guides - General (050) EDRS Price - MF01 Plus Postage, PC Not Availa-ble from EDRS.

Descriptors—*Class Activities, *Community Resources, Community Services, Cultural Differences, Educational Objectives, Grade 3, History, Instructional Materials, *Municipalities, *Neigh-

instructional materials. Municipalities. Neighborhoods. Primary Education. Social Influences, Social Studies. Units of Study. "Urbanization Identifiets—"New Jersey (Newark)
This is a curriculum guide for the study of the city

of Newark. New Jersey, in grade 3 social studies classes included are suggested lessons plans, cur-neulum resources, and instructional activities designed to provide information on the city's growth and development and to increase children's under-standing of people's relation to their environment. conservation of natural and human resources, causes and effects of human interdependence, the democratic way of life, and moral values. Bibliographies for students and teachers are appended.



Middle/Secondary

ED 062 234

SO 002 784

Liftin, Elaine, Social Studies: Ecology and Survival. Dade County Public Schools, Miami, Fla. Pub Date 71

Note = 27p. EDRS Price MF-\$0.65 HC-\$3.29

Descriptors—Activity Units, Behavioral Objectives, Case Studies, "Conservation Education, Curriculum Guides, "Ecology, "Environmental Education, Grade 7, Grade 8, Orade 9, Junior High Schools, Natural Resources, Overpopulation, *Pollution, *Problem Solving, Resource Guides, Secondary Grades, Social Studies Units Identifiers—Ecosystems, Florida, *Quinmester

Designed as an elective course of study for grades seven through time, this curriculum guide provides a study of the political, economic, and provides a study of the political, economic, and social aspects of ecological problems in the community, state, or nation. The focus is on the causes and effects of politicion and alternative courses of governmental and student (critican) action A suggested sequence is given for the nine week course Weeks 1 · 2 pupils discuss vocabu-lary terms and identify basic concepts and principles as they relate to ecology Weeks 3 - 6. stuper as they relate to ecology. Weeks 3 · 0. sur-dents analyze the cause of ecological problems and examine examples of and effects of five types of pollution — air, water, land, noise, and people, and, identify case studies of pollution in the comand, feeling case studies of potention in the con-munity and nation. Weeks 7 - 9, students ex-amine legislation and its enforcement, formulate programs, and enlist community support. At-ranged in the same format as other quinmester rangeu in the same format as other quinnester charses, a learning activities section provides a picture of the main idea and specific behavioral objectives for a set of learning activities. Related documents are SO 002 708 through SO 002 718, and SO 002 768 through SO 002 792. Author/SJM)

ED 075 223

SE 015 891

Activitles for Studying Megalopolis, Grade Level 4-8. Environmental Education Series. Bulletin No. 247-II.

Montgomery County Public Schools, Rockville, Μď

Report No-Bull-247-H Pub Date [70] Note=34p.

EDRS Price MF-\$0.6S HC-\$3.29

Descriptors--Curriculum Development, *Elemenstructional Materials, Learning Activities, "Metropolitan Areas, Natural Resources, Out-door Education, "Teaching Guider, Units of Study (Subject Fields)

This bulletin is one in a series of environmental education activity guides for grades K-12, developed and field-tested by teachers in the Montgumery County (Maryland) Public Schools Primarily for use in the middle grades four through six, the guides are not intended to constatute complete units in theniselses. They are, rather, a compilation of activities considered appropriate for particular environmental studies. In this guide about the megalopolis, for grades four through eight, the 31 activities are divided into three categories. Analysis of Residential Communities, Identifying Characteristics of Commerchil/Industrial Areas, and Identifying Patterns of City Growth and Land Use Each activity in-cludes the instructional objective, procedures to follow, and materials required. A student evaluation sheet follows each category and the bulletin concludes with a lict of suggested discussion aquestion's Related documents in the series are SE 015 885 through SE 015 890 and SE 015 892 through SE 015 893#(BL)

ED 075 31S

SO 005 646

Hoteley, Kathryn And Others Environment and Population, A Sourcebook for Teachers. Education Association. Washington. National

DC Pub Date 72 `°p√ room Sources suggested here are for use as sup-plementary material to be integrated into existing curricula. Divided into main sections that cover Contemporary Issues. Family Life, Health. Histo-ry or Social Studies. Seience, and Sociology, each chapter is also divided by concepts, and contains supportive discussion, suggested activities, references, recommended readings, and a list of relevant films. All of the chapters except two. Contemporary Issues and Sociology, are divided into Level 1 (most appropriate for students in grades 7.9), and Level II (geared more to the interests and abilities of high school students) (Author/OPH)

ED 082 982 MacLatan. Robers SE:016 776

Eavironmental lisnes: A Courtroom Simulation.
Buseau of Land Management (Dept of Interior). Washington, D.C.

Pub Date [73]

Note - 17p. EORS Price MF-10.65 HC-\$3.29

Deterptors-Court Litigation. Decision Making. *Environment. Instructional Materiats. Learn. *Environment. Instructional Materials, Learning Activities. *Local Issues, Resource Units, Role Playing. *Simulation. Social Studies. *Teaching Guides

A variety of methods can be used to resolve

covironmental controversies, such as passing new laws, enforcing existing laws, conducting public laws, enforcing existing laws, conducting public education programs, and creating new governmental management significus. In many instances the courts become the Site for environmental decision-making The purpose of this activity is to help acquaint students with laws, lawsuits, and courtroom activity and their relationship to the solution of environmental questions. The students need to understand that the activity is a simulaprocedures are basically the same as an actual court case but time periods, expertise required, formalities, etc. have been modified. The simulation is described in terms of a two-week period although the teacher may adjust the liming to suit classicom needl General directions for the simulation, which concerns itself with a local resource controversy and its solution, are given together with specific directions for the various groups advocate [plaintiffs and defendents]. Jury, community interest, media, and legal atternatives. The released and activities columnate with a fimulated trial Appended material ancludes fact sheets, sections from public laws, and suggested defentes.

ED 092 377

SE 017 915

(MLB)

Population. Grades 7-12. Environmental Educa-tion instructional Unit, Final Edition.

North Cafolina State Dept. of Public Instruction. Raleigh, Div. of Science Education.

Pub Date 73
Note—43p:: For felated documents, see SE 017
916 and 917

Price MF-\$0.75 HC-\$1.85 PLUS **EDRS** POSTAGE

Descriptors—City Planning, *Environmental Edu-cation. *Instructional Materials. *Interdiscipli-nary Approach. *Intermediate Orades, Mathematics Education, Overpopulation, * Population Growth, Science Education, Secondary Grades, Social Studies, Unit Plate, Urban Environment. Worksheeu

vailable from—National Education Association, 1201 Sixteen@Street, Washington, D.C. 20036 (Stock No. 381-12016 \$3.75 paper, Stock No. 381-12018 \$5.25, eloth) Available from-

EDRS Price MF-\$0.65 HC Not Available from

EDRS.

Descriptors—Activity Unds. Concept Teaching.

Demography. Ecology. Environmental Education. Family Life. Health Education. Interdisciplinary Approach, Local Issues, Population Distribution, *Population Education, *Population Growth, Population Trends, Resource Guides, Secondary Grades, Social Studies The primary objective of this sourcebook is to

help the teacher relate causes and consequences of population change to other social and environ-

mental issues already being es ploted in the class-room Sources suggested here are for use as sup-

This unit on population is one in a series of three prepared for use in classrooms in North Carolina. An interdisciplinary approach encompassing mathematics, science, and social studies is utilized in these environmental units. The maternal all is designed for middle grades and above. Many activities are open-ended. The depth to which students become involved in the utilization of this unit is determined by factors such as grade level, interest of students, and relevance of the material to courses into which it is integrated. Each activity in this unit emphasizes the population crisis that exists today, not only in faraway locations, but in towns like Fox City. North Carolina Although the name of the town is fictitious, the statistics about a town of its size are factual. Students study how an increase in population will affect transponation, lifeusing and urban renewal, recreation and municipal tervices. Task sheets list specific goals for the activities and thought directives instruct the riudents to proceed in a logical manner Collections of statistics in the form of fact sheets give valuable information needed by both student and teacher (IP)

ED 099 213

SE 018 243

Abbott, Veilin M. "Boomsville to Doomsville" - Development of Industry Within a Community. Environmental Ecological Education Project. Revised, July

88

Rarkway School District, Chesterfieldt Mo. Spons Agency—Buicau of Elementary and Secondary Education (DHEW/OE), Washington. D.C

Pub Date Jul 73

Note-188p. EDRS Price MF.\$0.75 HC-\$9.00 PLUS POSTAGE

Descriptors-Conservation Education, *Curricu. lum Guides. Phyironmental Education. lum Guides. "Environmental Education. "In-dustrialization. "Industry. Instructional Materi-als. Learning Activities. Natural Resources. School Industry Relationship." Secondary Edu-cation. Teaching Guides. Units of Study (Sub-ject Fields). Values

Identifiers-Elementary Secondary Education Act Title III. ESEA Title (III

This unit, developed for use with junior high school students, focuses on industrict an integral part of community life. It discusses factors industry should consider before choosing a location. aftempts to demonstrate that industry should not always be regarded negatively in a given community, but rather that it can benefit a community. by providing emploiment opportunities and additonal las revenue. The unit stresses the maguiac-turing and processing aspects of production and not the distribution and retailing features. It also emphasites the value of cooperation between industry and local estizens. Two publications neces. say to leach the unit are listed along with addi-tional teaching aids in a tection for the teacher. The unit includes the behavioral objectives and the expected student criteria for evaluation, pretests and Positiests teacher background information, a suggested initizieuonal sequence, a bibliography of both student and teacher resources, student data sheets and readings

ED 103 240 SE 038 521 Man's Habitat - The City. An Environmental Investigation.

Minnesola Environmental Sciences Foundation. inc. Minneapolis, National Wildlife Federa-Pub Date 71

Note-32p; Related documents are SE 018 514. 534

344 Available from—National Wildlife Federation, 1412 16th Street, Nat. Washington, D.C. 20036 [Oxder No. 7906]; \$1501

DRS Price POSTAGE MF-\$0.76 HC-\$1.95 EDRS

Descriptors-Elementary Grades, *Environment.,
*Environmental Education. *Environmental Influences, Instructional Materials, Intermediate Grades, Investigations, Junior High Schools, *Learning. Activities, Natural / Resources. Science Education. Secondary
Taking Guides, *Urban Education Grades.

This environmental unit is one of a series designed for integration within an existing cur riculum. In using these self-contained units site dents are encouraged to work at their own speed The philosophy behind the units is based on an est perience-ofiented process that promotes independent work. The Particular unit attempts to espand the student's understanding of environment by studying man's influence on the city. Activities center around an analysis of the local school community Students learn the components of their school community and the relationships represented there A community profile is developed through maps made from teansectasurvey questionnaites photographs, and histo-trams based on data collected. On of the objecoves included in this unit is that the students become concerned with their community problems and team ways of becoming actively inolved This unit, designed for students in grades 4.9., contains information for teachers, such as materials needed, directions for the activities. sample survey summanes, and duplication materials for a student booklet. Additional activities are included at the end of the unit (MA)

ED 120 044

SO 008 940

Cochean Carvilles S. McCrea Letier C Populstion Education in Baltimore

Pub Date Nov 75

Note-18p. For related documents see SO CA 941 through 945. Best com available EDRS Price MF-50 83 HC-51 67 Pies Pastage

Descriptors—"Curriculum Descriptors Demissive raphy Elementary Secondary Focusion 15 vironmental Education Chiebar Approach Life Style Population Education Population Crowth, Program Descriptions, Resource Le 1 Studies College. Swell Studies Units, Urtan Studies, World Problems

Identifiers - Urban Life Propulation Education in-

cistate

First in a series of sis documents, this report
rescribes the Urban Life Population (decelor
institute (ULPEI) program which was designed to demonstrate population realities to Builmore public schools so that teachers can introduce pupulation studies into the school eufriculum The first part of the paper presents background information on the ULPEI program Through a series of workshops with Baltimore public school teachers, the format of population education units was developed. A global approach to the population problem was decided upon along with an understanding of how population problems esist on the personal level. Using this philosophy a senes of units were developed by teachers that can be infused into existing surficult i Sec SD 008 941 through 945+ Several major concessions reached by the ULPEI Program are that population education should be infroduced into the school cyslem, racism is an essential component of population education and most be discussed and enderstood, the ULPE1 curricular materials can be adapted to other school sectems and teachers can more easily succept population education after they have been Anubice in its need through awareness workshors. The second part of the paper contains several appendice including footnotes. Questionnaires, short o scussion papers emphasizing the need for population education and teacher awareness a brief unnitiation of each of the eurneulum units, and an order form (Author/JR)

ED 120 046 50 008 942 McCrea. Lesier C. And Witters

Baltimore City Public Schinds, Md. Urban (ife. Population Education Inve. Public Dick. 14. Urban (ife. Italian))

-53p. For related documents see SO 1108 940 Ihraugh 945 PDRS Price 315-50 NJ IIC-53 50 Ptv i Postage

Descriptors Bittin Rate, "Okmingraphy Univiron mental Education, Global Approach, Graphis-Instructional Materials Junior High Scholics Learning Activities. Population Laucation, Population Greath Population Lends Secondary Education, Social Sciences, Social Studies Units, leaching Guides, leaching Techniques

This teacher's guide is the grades 7.9 unit for population education developed for the Baltimure public schools. This mini democraphs course covers carmus facture of population growth and change. The activities of the unit toxus on seven mayer concepts the demography provides information for understanding population growth, frends, and changes, (2) the world is involved in 2 population espiration. (3) world pupulation when the birth rate is higher than the death rate (4) the earth can support only a certain number of people. (5) population is becomthe more concentrated in urban areas 161 the age selecture of a population is an important index of population growth and (7) personal decisions have demographic consequences Twelve subunits comprise the major unit. Each contains topic concepts, objectives, activities, materials needed and conclusions. The units use grapes charts and a few statistics. (Author, IR.)

ED 120 048

50 008 944

McCrea Lesier C 4nd Ointes B. More Batumore: Teacher Edition. Bailimore City Public Schools Md Urban Life-Population Education Inst Pub Date Dec 74

Note-103P For related documents see \$0.008 940 through 945. Best copy available

Available from - Population Studies Bultimore City Public Schools 2418 St. Paul Street, Balmore Marsland 21218 (\$1 00)

EDRS Price 4F-50 43 HC-56.01 Plus Poctage

Descriptors—"Cits Demography City Planning, City Problems Ethnic Studies Instructional Materials Junior High Schools Learning Ac-tivities "Population Education Secondary Education Social Sciences Social Studies Units Teaching Guides "Urban Studies This grades "-9 unit is part of the series of

population education materials for Bultimore public servois focusing an urban studies the unit traces the historical growth of Baltimure and examines recent tredds affecting the city while projecting possible sulutions to enhance its qual. ty of life Alghaugh specifically focusing on Baltimore as a model city the unit introduces the consept that the qualities and problems of Balimpore are similar to those of other urban areas The individual activities specifically focus upon Baltimore, however, teachers can desclub materiale for their own city using this model (Author/JR)

ED 120 049

SO 008 945

and Others McCrea Lener C Production, Pollulion, Papulation Issues for a Changing World- Teacher Edition.

Baltimore City Public Schools Add Urban Life. Production Education Inst.

Pub Date Dec 14
Note-hip. File related documents see SO 008
940 through 944 Some pages may not
reproduce clearly due to print quality of otiginal document

Avoilable frum Population Studies, Baltimore City Public Schools 2418 St. Paul Street Baltimore, Marsland 21218 (\$1.00)

FIRS Price MF 10 83 Ht -53 50 Plus Postage Descriptors - Case Studies - Crise Caputal Studies Demography Developing Nations, "En viringmental Education Colonal Approach, "Hunger, Instructional Materials, Learning Activities, Nutrition, Pollution, Population Education, Security Education, Social Sciences, Social Studies Units, Teaching Guides. Teaching Techniques

Pan of the population education curriculum materials for the Baltimore public schools this teaching guide is for the 7-12 resource unit. The unit activities take the student out of his present contest of family, neighborhood, and city to help him understand some of the global issues relating to population. The unit locuces pin the life of a specific North. Mirican family enabling students in grasp parallels and differences between his family and the African family. The unit encorn passes the problem of the world food exists at well as population and pollution. Fen subunits make up the curriculum, bach contains a title Papie, objectively activities, materials needed, and subjected homework activities (Author/JRI

ED 128 289

50 009 425

Interdisciplinary Luit on Land Use and Social Ac-

tion in Pinellas County.
Pinellas County District School Board, Clear-Water, Fla.

Spons Agency - Florida State Dept. of Education.
Tallahassee Office of Environment Education. Pub Date Feb 76

: 10p

EDRS Price 41F-50 83 RC-515 39 Plus Postage, Descriptors Community Study, Course Objectives. Environmental Education Grade 8, tives. *Environmental Education Grade 8, Grade 9, Interdisc plinary Approach. *Land Use, Population Distribution, Secondary Education, *Social Action, Social Responsibility, *Social Studies Units, Leaching Methods, Values, Water Resources, Zoning Identifiers—*Florida

Interdisciplinary social studies units on land use and social action for eighth and minth grade students ere provided Although specifically unten for students living in Pinellas County, Florida, the Units can be adapted easily for teaching about land use in general and or fand use in one s own community. The overall objective is to help students took at what is happening in their community and clarify their values and life-style aspirations. Specific unit topics include the concept of land use an historical view of land use and planning, beach development and natural disasters, transportation, zoning, water supplies, distribution, wastes, and population Objectives, vided for each unit Teaching strategies suggested are varied. Short readings and audiovisual presentations are followed by elassroom discussions Students write short stones, speeches, poems, and songs, make collages and travel posters, analyze graphs and tables, es amine ease studies, conduct interviews with community people, take field trips, and role-play community situations and positests see also included (Author-RNI)

33

Overpopulation Produces.... What Are We Going To Do About It? [Project ECOLog) ELE Pak. Edgac Paki

Highlice Public Schools Seattle Wash

Spons' Agency Bureau of Exmentary and Secondary Education (DHEW OE), Washinglon DC

Pub Date [76] Note=63p For related documents see SE 021 #38.478. Dittox 1 and 2 have been removed

due to copytight restrictions Available from Highline Public Schools Instruc-tional Distrum. Project ECOLogo ESEA Title III. Bill Guise, Director. 15675 Ambaum Blvd. S.W. Scattle WA 98160/52/201 EDRS Price NE-50/83 HC-53/50 Plus Postage

Ocseriptors—Feology Environment Sensiron-mental Education Geographs Instructional Population Materiuls, Overpopulation Population Growth, Population Trends, Science Educa-tion, "Secondary Education, "Units of Study" Growsh.

(Subject Fields)
Identifiers—Elementary Secondary Education Act
Title III, ESEA Title III

This unit is one of a series produced for environmental education programs by the Highline Public Seniote These materials are designed for use with junior high school students studying the concept of population, population trends, and problems created by changes in populations. The problems created by charges in Dopulations. The seven concepts in the unit take about increased to complete. The imaterials are most easily adupted to science of geography classes. Each lesson includes the concept or the lesson materials needed, probable time for the lesson procedure, evaluative activities, and suggested cetral activities. Materials for making ditto masters are included (RH).

ED 135 649 Whole Earth Dealga. SE 022 132

Indiana State Board of Health, Indianapolis , Indiana State Dept of Public Instruction, Indianapolis

Pub Date 76

Note ... 140p EDRA Price MF-50.81 HC-57.35 Plus Postage. Descriptors-Hiology &c Secondary Education. Llementary ficulosy. *Environment.



vironmental Education "Instructional Materials, Land Use, Nutural Resources, Problem Solving, "Teaching Guides, Urban Areas

The purpose of this interdisciplinary instructional design is shreefold. At its basic level it serves as an activity based program guide for developing in students and instruction, grades 4-12, the ability to observe assimilate and interpret the world around them. On another level it pro-vides the "hands-on" experiences that open the bounds of the usual four walled classroom and allows the student and instructor to develop a learning motif that is limited only by their imaginations finally at its most efeative level. the design is introctured to acquaint student and instructor with the principles of values and dees-sion-making Through a multi-disciplined ap-proach, the design attempts to singage student and instructor in the complex problems of priorities and personal world. Confidence and curiosity should be magnified through this exercise, eselfing student and instructor to step beyond the limits of their present knowledge Each investigation contains suggestions for setting the stage. a series of tasks to be done individually or in small genup: task card samples to be used with these groups task card samples to be used with these activities, summary activities and questions, supplementary charts and tables where appropriate, and in some instance, additional information about the type of teaching activity to be used Collecting data from primary sources and group problem solving are used throughout the material

ED 141 094 -

SE 022 569

Stahl, Robert J. Valuing Exercises for the Environmental Education Classroom.

Florida Univ. Gainesville P K Yonge Lub School Pub Date 76

Note-38p. Contains light and broken type

EURS Price 11F-30.83 IJC-32.06 Plus Postage Descriptors - Conversation Education Desision Making Skills *Environmental Education *Ineffectional Atlachais Outdoor Education. Secondary Grades *Teaching Guidey *Values This guide gives five formula and complex for helping middle whool and high concol students knowledge and decision. Section Eintroduces the need for values charification. Section II defines values charification. Section III explains four phases of values charification. Section IX explains the need tor a value cheet, a planned written actheirs designed to elicit value coordination patterns of language usage from students. Section 3, lists the parts of the value sheet. Section 31 presents four interrogative modes which may be used in questioning students. Section All discusses fine formats which may be followed. The examples presented are designed to be used in conjunction with unite tocoring on energy use and pollution. Teachers are encouraged to sope and modific these value speed bach of the formats outlines needed to wher proparation, the estuation for discussion and accisions he be made, the puide tiels discussion and a resident gives samples of culin clients. Common John or materials related to the values claras item approach is included (Author AJ)

ED 179 795

CE 023 550

O Born Airronder Crisis . Energy, Solar Energy Education Project. Howell Township Board of Education, NI Spons Agency—New Jersey State Dear of Educa-tion Trenton Divi of Vocational Education

Pub Date—[79]
Note—24p Not available in paper-copy due to liability broken type. For related documents see CE 023 547.549

Pub Type - Guides - Classroom - Teacher (052) EDRS Price - MI-01 Plus Postage PC Not Available from LDRS.

Discriptors—Class Activities "Energy, "Energy Conservation, Federal Regulation, "Government Role, Junior High Schools, Learning Modules "National Programs, "Social Studies, Social Studies, S dies Louis

This learning module offers a five-hour class schedule for discussion and study of the overall L S energy system including resources consumption rates, governmental plans and regulations energy conservation problems and techniques, and ever-

gy conservation programs. The module includes a pre-post test, suggested class activities a basic vocabulary hist and diagrammatic presentation of nformation ICP)

ED 186 316 SO 012 559 The Energy Future Today: Grades 7, 8, 9, Social SO 012 550

National Science Teachers Association, Washington, D.C.

Spons Agency—Department of Energy. Washington. DC. Office of Consumer Affairs, Washington. DC

Report NO -- DOE 'CA '06083-01

Report NO -- DUE CA GOODSTAND TO THE PUB Date -- Apr 80 Contract -- EC-7-C-01-6083 Note -- 88p. For a related document, see SO 012

Pub Type— Guides - Classroom - Teacher (052)
EDRS Price - MF01/PC04 Plus Postage.
Descriptors—Class Activities, Decision Making
Skills *Energy *Energy Conservation, Fuel Consumption, Fuels Grade 7, Grade 8, Gade 9, Junter High Schools, Lesson Piaes, Natural
Resources, *Natural Sciences, Secondary Education *Scient Contact Teachers, Guide 1, Page 1 ion "Social Studies, Teaching Guides, Units of Study

This teacher's guide contains a unit of study for leaching about energy in grades seven, eight, and nine. The gaide is self-contained and includes the handouts students need to work out the activity problems. The unit is developed around the conproteins. The user is developed around the con-cepts of shortage, scarcity, tradeoffs investment, and desision making Students develop triese con-cepts by examining data from both the social sciences and the natural sciences. By participating in several decision-making activities students seve-lop participatory skills as well as an understanding of the problems involved in energy decisions. The activities in which students are involved are many and varied and include using the newspaper nead-lines to identify effects of a fuel shortage, using graphs and eartoons to define scarcity, and studying the appeals in advertising slogans to identify some of the ways attitudes are formed toward or sway from conservation. The packet is divided this four units each of which contains two or three lessons. It is designed to last approximately two weeks. The unit can be extended if the teacher chooses some of the optional decision-making or research activities. Teacher background information on energy is also provided in the guide. (Author, RM)

ED 199 11S

SE 034 683

Samern Dor & G Developed Fnergy Activity Sampler (IDEAS), Grades 7-12: Notal Studies.

Towa Energy Policy Council Des Morres Towa

State Dept of Public Instruction Des Moines

State Dept of Fuele Institution
Pub Date—80 Nots—17°p For related documents see SE 034
677-682 Pages 253-256 291-294 324 330 341 remoted due to copyright restrictions. Pages 19-172 contain the introduction which is the same for all modules. They have been removed and made into a separate document - SE 034 677

Pub Type— Guiles - Classecom - Teacher (052) EDRS Price - MF01 PC08 Plus Postage. Descriptors—Current Events *Energy Energy

Conservation, *Environmental Education Fused Curriculum, *Fotores (of Society) Quality of Life, Resource Materials, *Secondary Education, Social Studies

Described is the Social Studies component of the Iowa Developed Energy Agricult Sampler (IDEAS), a multidisciplinary energy educationsprogram dosigned for intus on into the corticulum of grades sever through twelse. Aspects of the energy situation addressed in these lessons include resource finiteness, exponential growth, 5 shauld of living inniceness' exponential growth, 5'shuard of living foreign relations, historical perspectives and future alternatives. Also contained in the IDE AS program are activity sets for Home Economics (SE 034 679). Industrial Arts (SE 034 679). Language Arts (SE 034 680). Variementies (SE 034 681), and Science (SE 034 682). Provided in this manual are the 30 students entered activities. From the computer student-centered activities from the complete IDEAS curriculum that relate to secondary social studies. Illustrated by drawings, charis, or diagrams. the lesson plans include discussion questions and background information. Activities are atranged un-der six concepts. (1) Energy is basic. (2) Energy usefulness is limited. (3) The environment is also feeted by energy exchanges (4) Energy choices aftret vocatte, (5) Conservation, and (6) The future is outs to shape and share I Author N.B.

ED 211 376

SE 036 058

Button John W. And Others
What Is Out Mannine Heritage? A Manne Education Infusion Unit on Ships and Sailing, Revised Edinon.

Maine Univ. Orono Coll of Education Spons Agency-National Science Foundation,
Washington, D C

Pub Date—80
Grant—NSF-SER-8008177
Note—TIP. For related documents see SE 026
055-059 Produced through the Notemern New England Marine Education Project Contains colorea print which may not tettedure wen

Available from-Northern New England Manne

Available from-Northern New England Manne Eduration Project, Univ. of Maine as Oreno, 206 Shibles Hall, Orono, ME 94469 (63.00). Pub Type—Guides - Casaroom - Teacher (052). EDRS Price - MF01 PC03 Plus Postage.

Descriptors—"Activity Units Elementary Secondary Education, Environmental Education, International Conference of Casaroom - Casaro

structional Materias Interdisciplinary Approach, Intermediate Grades Amer' High Sensol Students, Local History, Marine Biology "Navigation: North American History: "Ocea-nography: Water Resources Identifiers—"Marine Education: Snippoulding:

The nemage of ships and beats of northern New Engrand serves as the todar point of this interdisci-plinary unit for fifth, through the many approximation information on manitum heretoge, plocatory and intormation on marriant retriege thousand state of the state of sales and sales based of sales and rooters have lend ships and shipping is provided in the reacher's section. Corresponding universal ons are inclined. A seating Corresponding visits to long a continued in sand floating model boots in full year marking sauting and floating model boots in full year marties or arking board games, teading poems and prose und making sommishes, bistanon print and notice and making sommishes, bistanon print and notice and tesources and pieces to visit are provided. (DC)

ED 214 838

Lump Steven L. And Others

Teaching Global Awareness with Simulations and Games, Grades 6-12, Global Awareness Series. Denver Univ. Colo Center for Teaching Interna-

tional Relations Pub Date-81

Note-161p: Some small print type and colored pages may not reproduce clearly from EDRS in microfiche

Available from-Center for Teaching International Relations, University of Denver, Denver, CO 80208 (\$14.95 plus \$2.00 possage and handling). Pub Type— Guides - Classroom - Teacher (052) EDRS Price - MF01 Plus Postage, PC Not Available from EDRS.

Descriptors-Advantaged, Civil Liberties, *Concept Teaching, Developed Nations, Developing Nations, Disadvantaged, Economic Development. "Educational Games, Elementary Secondary Education, Ethnic Groups, Futures (of Society). "Global Approach, Individual Needs, International Relations, International Studies, Map Skills, Quality of Life, "Simulation, "Social Studies, Teaching Guides, Technological Ad-

This teaching guide contains 15 simulation, games for students in grades 6-12 on the topid of global owareness. The overall objective is to help students understand various global concepts and social i udies content Specifically, it gives students the chance to experience and understand internationalintercultural situations which involve people in all walks of life such as politicians, diplomats, farmers, sharectoppers, and consumers. Students focus on the four global themes of inequality, development and technology, human rights, and basic human needs for example, in one game. Self Defense. students divide into countries with Pseudonames such as Grainland, Southland, and Northland and unknowingly replay the actions leading to World War. I in another game, "Creating World Maps Visual Data Charts," students tedraw the uze of countries to correspond to the amount of oil and food they use and their population. Some activities may be adapted for elementary grades and for the



college classroom. Simulations and Rames are arranged according to difficulty and often subject atter. Each simulation includes an introduction and a list of objectives. Information is given on the grado level, time required, materials needed, procedures to be followed, and instructions for debriefing and follow-up. Supplementary resources such as films and sildes are often suggested. A major portion of the guide provides handout materials for teaching the games. (Author/NE).

ED 214 842

SO 013 975

Otero, George G. Jr., Comp. Teaching about Population Issues

Denver Univ., Colo. Center for Teaching Internauonal Relations.

Pub Date—Apr 81 Note—86p.; Sponsored by the Graduate School of International Studies and the School of Educa-

tion. A few pages marginally legible.

Available from—Center for Teaching Interpational
Relations, University of Denver, Denver, CO
80208 (\$8.95 plus \$2 00 postage and handling).
Pub Type— Gnides - Classroom - Teacher (052) EDRS Price - MF01 Plus Postage, PC Not A sails ble from EDRS.

Descriptors—Aging (Individuals). Birth, Critical Thinking, Demography. Discussion (Teaching Technique). Educational Games, Elementary Secondary Education, Females. Food. Learning Activities, Migration Patterns. Minority Groups, Mothers. *Population Education. *Population Growth, Simulation, Teaching Guides Identifiers—Gross National Product, Population

This teaching guide on population issues cootains 19 activities for students in grades 7-12. The objective is to analyze population issues that have retive is to analyze population issues that have re-sulted from human population dynamics. In this guide, four categories of activities are included some are discussion starters, some provide factual data some focus on thinking skills, and some are unulation games. For example, "Pop Quotes," is the activity designed to spark students' interest in lamking about population issues. In this activity, students make mobiles, write quotes about population on the mobiles, and hang them around the room. In a simulation game, students role play different members of Confress who must vote on an immigration law. "Changing Migration Patterns to the U.S." is a factual data activity that documents migration patterns with the use of charls. Panicipants then analyze the meaning of the data. In "Population and Group - It All Adds Up," the focus is on thinking skills. This activity is designed to help the student evaluate the role growth plays in the quality of life. Students collect industrial or Cham-ber of Commerce ads which reflect the desire for growth or reflect the desire to improve the quality. of life. Then students question whether the ad en-courages growth or improves the quality of life. Each activity contains an introduction, a list of objectives, teaching procedures, follow-np aetivities, and information on time required and materials seeded. This suide includes a list of available materials on population/food topics and a list of organizations that can provide additional informa-tion on these topics, (Author/NE)

SO 013 974

Otero, George, G. Jr., Comp. Teaching about Population Growth.

Denver Univ. Colo Center for Teaching International Relations

Spons Agency—Denver Univ. Colo. Graduate School of International Studies.: Denver Univ.. Colo. School of Education.

Pub Date—Mar 81

-114p; Pages containing small and broken

print type may not reproduce elearly.

Available from—Cepter for Teaching International Relations. University of Denver. Denver. CO. 80208-(58.95. plus \$2.00 postage and handling).

Pub Type—Guides - Classroom - Teacher (052)

EDRS Price - MF01 Plus Postage. PC Not Availated. ble from EDRS.

Descriptors—Demographic Concepts. Learning Activities. Population Distribution. *Population Education. *Population Education. *Population Growth. Population Treads, Pretests Posttests. Teaching Guides This leaching guide contains 20 activities on population growth for students in grades 6-12. The

purpose is to help students gain the skills, knowl-

edge, and understanding of population dynamics so that they ean make rational decisions and take re-sponsible action regarding population matters and public policy. Activities are organized around the population dynamics of growth, sire, density, and distribution as well as demography. Each activity is based on an assumption. For example, "World Population Data Sheet" proves that the earth's hu-man population is distributed unevenly over the earth's surface. Other assumptions are: the earth is a finite system; population is a group of organisms limited in time and space; specific factors determine the sire and makeup of a population; desired population; tion size depends on people's wants and expectations, world population is growing rapidly, because of a reduction in the death rate, organisms need speculic external resources to support life and they spectar external resources to support the and they require space; and population is a major factor in human/environmental interactions. Each activity contains an introduction and a list of objectives. It includes information about grade level, time required, and materials needed. The Procedure to followed the space of the procedure to followed the space of the space low is explained and ideas are given to evaluate the performance of students. There are bandont and supplementary materials. A pretest/positest is provided. (Author/NE)



Becondary

ED 045 350 :

SE 009 310

Man's Urban Environment. De. Kalb Community School District 428 III

Spons Agenes Buteau of Elementary and Secondary Education (DHEW/OE). Washington, D.C. Pub Date [69]

Note - 48p EDRS Price MF.\$0.25 HC-\$2.50

Community (se atural Planning Community
Planning Environment Land Use atural
Resources. Regional Planning Secondary
Education. Teaching Guides. Troan Environ-Identifiers-ESEA Trile III

This teaching guide develops a unit on community planning for the high school student. The format allows the student to make selected decisions in areas of geography, edonomics, history and politics that form a base for the student to build a model of his own city as it is. student to build a model in his own easy as a his and his the student would like to see a lineluded is a vocabulas hist film list, and selected bibliography of books and journal articles. This work was prepared under an ESEA Title til contract (BB)

ED 059 958

SO 002 715 LaRge Marearet F LaRge Edward T

Social Studies: Feo-Poblics. Dade County Public Schools, Miami, Fla

Pub Date 71 Note - 40p

EDRS Price MF-\$0 65 BC-\$3.29

Descriptors—Activity Units. Behavioral Objectives. Citizenship, Concept Teaching Consumer Economics. Cornculum Guides. *Ecology Feonomics *Environmental Education. sumet reconomics. *Environmental Education.
gv Fconomics *Environmental Education.
Government Role, Grade 10, Grade 11 Grade
12, *Interdisciplinary Approach, Political Issues *Pollution.
Population Education.
Grades, World sues Poilution. Population Education. Resource Guides, Secondary Grades, World

Identifiers-Reosystems, Flonda, "Offinmaster Program

This guide, one of a series in the Ottinmester Program is intended to aid teachers in grades 10 shrough 12 as they prepare instructional programs dealing with current environmental crisis issues. The aim of this course of study is to help students understand political and economic ramifications of environmental problems and to motivate and provide them with the tools and the become effective consumers and estirens. The guide is divided into 1) a broad goals section. It a course content section which outlines units on ecological principles, environ. mental problems economics of pollution, govern-ment and pollution, industry and pollution, pollution control, individual action, and future implieations of environmental policy. 3) a learning activities section providing a picture of the main idea and specific behavioral objectives for a given set of idearning activities, and, 4) a materials section. Appendix 1 censists of President Nison's 1470 message on the environment. Appendix II enumerates environmental organizations. Related ducuments are SO 002 709 through SO 002 718

(Author/SJM) ED 061 126

SO 002 711

Faulkner. Brenda F Social Studies: Cities in Crists.

Dade County Public Schools, Miami, Fla. & Pub Date 71

EDRS Price MF-\$0.65 HC-53.29

Descrite MF-\$0.05 NC-53.29

Descriptors—Activity Units Behavioral Objectives, City Improvement, City Planning, "City Problems, Community Study, Curriculum Guides, Ecology, "Environmental Education, Grade 10, Grade 17, Grade 12, "Problem Solving, Resource Guides, Secondary Grades, "Sucial Studies Units, "Urban Studies Identifiers—Florida," Quinmester Programs, This elective quinmester programs for grades 10

This elective quinmester program for grades to through 12 focuses upon the study of urban problems Students analyze city problems taking into consideration ecology, city/planning, model:

ereative solutions. The course is arranged into seven sections Student activities are to 1) discuss the history of the development of Amer. stean extres. 2) examine, environmental, sociological, economie, political problems of extres and propose plans for solving the problems. 3) discuss legislative intent to solve the housing problem. 4) discuss effects of prejudice and discrimination in esties, 5) determine the effect of local polities on esties, 6) explain the need and effects of roning. and. 7) develop a comprehensive plan for a city Related documents are SO CO2 708 through SO 002 718, and SO 002 768 through SO 002 792 (Author/SJNI)

ED 066 366

SO 002 991

Brown, Jerry L. A Plan for an Instructional Unit on Population Dynamics, Final Report.
Indiana Univ., Bloomington, Population Educa-

tion Project.

Spons Agency-Population Council, New York,

Pub Date Nov 71 . Note- 168p.

EDRS Price MF-\$0.65 HC-\$6.58

EDRS Price MF-90.03 Inc. Design, *Curnculum Descriptors-*Curneulum Design, *Curneulum Phomography, Environmental Development, *Demography, Environmental Education, Grade 12.** Population Education Population Trends, Secondary Education Identifiers— Population Education Project

A grade twelve instructional deagh unit on population is described in this entriculum plan. The purpose of the unit, approximately six weeks in length, is to provide students with basic knowledge about population dynamics and deer sion-making, process, and value analysis skills using approaches of social sciences. Emphasis is upon helping the individual to understand the effects of his behavior on himself and others. The plan document presents, background information on the center, procedures for developing instructional materials, the unit purpose and goals, and possible multidisciPlinary and future-oriented topics, two assessment instruments (appended) constructed to measure students' population telated knowledge and attitudes (the results indicating that although students are concerned they lack basic knowledge about population), instructional objectives, and the matching of objectives with four instructional techniques, east into an "in-structional flow" that can serve as a framework for development of the unit (SJM)

ED 066 407 SO 004 360 Ueban Sociology, Curriculum Bulletin, Grade 12. Wilmington Public Schools, Del Pub Date 71 Note-149p

EDRS Price MF-\$0.65 HC-\$6.58

Descriptors-Activity Units, Behavioral Objectives, Community Study, Educational Objectives. Community Study, Educational Objectives. Grade 12. Resource Guides, Secondary Grades. "Social Studies Units. "Sociology, Teaching Guides. Urhan Aceas. "Urban Culture. Urban Environment. "Urbanization. "Ur. ban Studies

The focus of the urban sociology teaching guide for grade 12 is on the effect of urbanization upon four of the major social institutions: familial. governmental, economic, and educational An byecall educational objective is to prepare stu-dents for developing rational solutions to problems confronting urban society. Objectives are stated in behavioral terms for each of the five Units. Through enumeration of content, suggested activities, and resource material, the guide recommends a proven roadway to reach the objestives. The course emphasis is on people and the effects of social institutions upon them. While urban problems in general are considered, problems of Wilmington are highlighted in order problems of withington are highlighted in order to involve students in specific local issues that affect them. Unit I introduces the student to the nature of sociology, especially of urban areas. Unit II studies the family in an urban setting. Unit III examines broad problems on any urban government in meeting the needs of dwellers. Unit IV analyzes urban economic institutions.

Unit V examines the functions of the educational institution. The teacher is urged to make use of institution. The teacher is urged to make use of community resources, local newspapers, television programs, and public meetings (SJM).

ED 067 304 SE 014 917

Bemist, Clair W

Social Studies Resource Units.

Social Studies Resource Units.

Brevard County School Board Cocoa, Fta
Spons Agency—Burcau of Elementary and
Secondary Education (DHEW, OE), Washing.

ton. D C Pub Date 72

Note = 296p EDRS Price NIF-S0.65 HC-\$9.87

Descriptors—"Environment, Human Relations, Instructional Majorials, problem Solving "Resource Units, "Secondary Grades "Social Studies, "Teaching Guides Identifiers—ESEA Title III

Based on the premise that fundamental solutions to enfironmental problems must include soeral solutions, these three resource units are designed to study the interrelation of man and nature as part of the social studies curriculum. A series of inquiry questions are posed with the intent of sumulating students to find solutions to out environmental ensis. The "inquiry and problem solving approach seeks to the build of framework of reference to uttain an understanding of the causes and effects of our present en-vironmental costs. (2) attain an awareness of both the beauty and ugliness of our environment. (3) develop a sense of pride and social responsi-bility for the preservation of our planer, (4) foster a realistic identity with the social problems & relating to our environment. (5) create the desire to become involved in finding squitions to these problems, and (6) realize the importance of attuides toward making advances in the human conditions. Each of the units, Technology and, Out Environment, Man vs. Nature, and Responsi-ble Social Action, Toward Our Environment, is seb-divided into inquiry questions learning setivitechniques, teacher suggestions student com-ments, and teacher comments. A resource n...ograph is included. This work was prepared under an ESEA Title III contract (BL) 13050

ED 068 339

Bemus, Clair W The Curious Entanglement of Law, Poutics, and the Environment.

Brevard County School Beard, Cocoa, Fla

Spons Agency—Bureau of Elementary and
Secondary Education (DHEW/OE), Washington. D.C. Pub Date 72

Note-369p. The 20 39mm slides cannot be recoduced

EDRS Price MF-\$0.65 HC-\$13.16 Descriptors—"Privationment, Instructional Materials "Legislation, "Pointies, "Resource Units, Sevendary Grades, Social Sciences, "Teaching Coldes

Identifiers—*Elementary Secondary Education
Act Time III ESFA Title III.

Since environmental problems are becoming inereasingly important as political issues, these resource units serve as a base for the study of pontical and legal influences on environmental control inquiry questions and learning activities are designed to gain an understanding of (1) the forces that give impetus to present environmental (a) (2) the relationship of different levels of desertment that are involved in the environment accuses in policy setting, law making, or enforceniers capacity, and (3) cours procedures in enviconmental cases. Also, they provide an opportu-nity to: (1) recognize types of propaganda and e awree facts utilized in making environmental desisions, the resognize that insighting entiron nuntal improvement implies responsible financial country, and (3) participate in bringing about deared enanges by reconsible action, hach of the three units. Local Government and the Ensifts ment State and Federal Government and the Environment, and Awakening the Process for Change, is sub-disided into inquiry questions.

100

searning activities, resource materials, possible evaluation techniques, teacher suggestions student comments and teacher comments. A essurce bibliography also includes a set of 20 mm slides. This work was prepared under an ESEA Title III contract for the project. Broad Spectrum Environmental Education Program (BL)

ED 068 348

SE 014 946

Kroll, Claudia J

An Environmental Unit for the Social Studies. Pub Date 72

Note-62p. Due to copyright restrictions, pages 49-56 are not included

EDRS Price MF-S 0.65 HC:\$3.29 **

Descriptors—"Environmental Education "Land Use, Resource Materials, "Secondary Grades, "Social Studies, Teaching Guides, "Unit Plan *Land

Based on the inquiry method of learning, this instructional unit attempts to encourage students to discover for themselves the facts, problems, values, conflicts, and potential solutions of an environmental issue. Specifically, it deals with sutface mining in the United States with special focus on surface mining in Illinois. Materials and instructional strategies necessary for actual class-toom use are presented serving as a source of ideas and procedures for the teacher. Although planned for use in high school social studies classes, it may be adapted for rither disciplines or integrated into other units. Chapter I defines the purpose, importance, significance, and terms of the topic and unit. Chapter 2 minutes behavioral objectives, a list of instructional aids included in therunit, introductory activities, activities to provide further information, accumulative activities, and a means of student evaluation. Summary and conclusions are contained in Chapter J. Ap-pended material includes a list of free materials solution and ten instructional ails a question-naire, test, coal production charts, mining terms, statements by governmental personnel, a slide recentation explanation, cord, ching views on a rip mining, a bibliography, and two magazine articles (BL) to send for and ten instructional airs a question.

ED 073 032

SO 005 402

Fagerstrom, Richard A Borad, Bruce Environmental Issues Conflict Unit. Teacher's

Guide and Student Book.

Diablo Valley Education Project. Orinda, Calif.,
New! York Friends Group. Inc., New York
Center for War/Peace Studies

Pub Date 72 Note-156p

EDRS Price MF-\$0.65 HC-\$6.58 Discriptors—Air Pollution Control. Concept Teaching. *Conflict.* Conservation Education. *Ecology. *Environmental Education. Induc-tive Methods. Instructional Matenals. Natural Resources. Pollution. Problem Solving. Recording. Secondary Grades. *Social Studies Units, Teaching Guides, Values, Water Pollu-

tion Control
Identificis—*Controversial Issues
This two separate manuals focus on environmental issues of interest to secondary students An introductory unit deals with basic ecology and is followed by another unit that explores man's ethic toward the use of environment Emphasis is upon two major ecological conflicts, one over the use of a wilderness area, and the other over the use of living and non-living resources of the oceans. In the third unit, students examine the right of Walt Disney productions to develop the Mineral Kirig area of the Sequora National Forest in California into a resort. Ouestions over use of the oceans are examined in the last unit, with students discussing a variety of tissues ranging from oil spills and fishing rights to the division of the wealth in the oceans. Inductive methods encourage students to discover controversy through the examination and discussion of issues and through various suggested activities. Problem solving and concept tearning are emphasized. The teaching guide is arranged into four major units containing several lesson plans-each including rationale, objectives, student assignment, and procedures. The lessons in the student workbook are coordinated with the guide. The teacher is provided with a tentative time schedule allowing the atudy to range from nine weeks to a full semesters work (SIM) ED 087 688 SO 006 993 Hawke, Sharry Untford, Robert

Studies in the Environment, Redesigning the Com-

munity. Profiles of Promise 20.

ERIC Clearinghouse for Social Studies/Social Science Education, Bowlder, Colo , Social Science Education Consortium, Inc., Bowlder,

Spons Agency—National Inst. of Education (D-HEW), Washington, D.C. Pub Date [73]

Available from—Social Science Education Con-sortium, 855 Broadway, Boulder, CO 80302 (\$10,00, 1 copy of 30 issues, \$20.00, 5 copies of 30 issues) EDRS Price MF-\$0.65 HC-\$3.29

Descriptors-Architecture, 'Art Education, City Problems. Course Descriptions. Design Needs. *Environmental Education, Environmental Influences. Evaluation Methods, Grade 9, Ptogram Descriptions, *School Community Relationship, *Social Studies, Student Projects. tionship. *Social Studies. Student Projects. Units of Study (Subject Fields). Urban Culture. Urban Environment. *Urban Studies

Identifiers - Missouri, Profiles of Promise, Univer-

sity City -

Redesigning the Community is the ninth grade unit of the University City school district program known as Arts in General Education, a K.12 series of special instructional units taught as part of the regular subject areas of language arts and social studies. In social studies, the main focus-is un ensittinmental design and planning. In this ninth grade social studies unit, students explore some general concepts of culture through general readings. Then a more in-depth look at a city's relationship to culture is presented through the use of slides and literature. Next, students are introduced to specific aspects of urban design and begin a study of the home community. The culmination experience of the unit is a student activity project in which a specific aspect of University City is chosen for redesign Three stu dent projects described focus on the zoo, adequate housing, and community worship facilities. At the completion of the projects, students present proposals to a review board composed of class members and moderating teacher for critical appraisal of functional and aesthetic factors of the plans Student evaluation measures are included with each of the 19 lesson guides Teachers' assessments, provided on a form at the end of each of four lessons, contribute to annual modification of the program Instruction units for the entire Arts in General Education Project and the 19 lessons of 'Redesigning The Community' are Inted (KSM)

ED 088 722

SO 003 515

Mank. Evans R

Man and His Physical Environment: Teacher's Manual.

Illinois Univ., Urbana Social Science Curriculum Study Center Spons Agency-Office of Education (DHEW).

Washington, D.C. Bureau of Research Bureau No-BR-5-0383 Pub Date 67

Contract - OEC-4-10-058

Note—130p EDR\$ Price MF-\$0.75 HC Not Available from EDRS.

Descriptors-Concept Teaching. *Geographic Concepts, Geography, "Geography Instruction, "Human Geography, Inductive Methods, Maps-*Physical Geography, Resource Materials, Secondary Grades, Sequential Programs, *So-cial Studies Units, Teaching Guides, World

Building upon Course I, this teaching guide for the first of four units of Course II introducts the the first of four units of Course it introduces on secondary student to geographic concepts and generalizations of the physical world to which man has related over time. All units of the second course emphasize the process of development whereby man, coping with given conditions in his physical environment, develops established ways of dealing with the problems of socialization, economic constraints, and political power. "Man and His Physical Environment, a seven week instructional unit, providet a framework for study of the emergence and development of simpler and advanced entures. Students arrive at

concepts utilit or inductive methods while study. tion globally in relation to the distribution of man. A student manual is incorporated into the Transparent-occilays and other visual aids are listed including slides, maps, and selected films developed to teach concepts basic to an understanding of man's physical environment Related documents are ED 048 062, SO 003 169, through SO 003 175, SO 003 516, and SO 003 S17 (Author/SJM)

ED 098 072 88 SE 018 237 Population. Environmental Ecological Education Project.

Missoun State Dept of Education, Jefferson City . Parkway School District, Chesterfield, Mo-Spons Agency-Bureau of Elementary and Secondary Education (DHEW/OE). Washington, D C.

Pub Date [73]

Note-253p EDRS Price

Price MF-\$0.75 HC-\$12.60 PLUS POSTAGE

Descriptors—Conservation Education, *Currieu-ium Guides, *Environmental Education, *Instructional Materials. Learning Activities, Natural Restutzés. Population Education, Popula-tion Growth, Population Trends, Secondary Education, Teaching Guides Identifiers - Elementary Secondary Education Act

Title III, ESEA Title III

This unit on population, designed for senior high school students is divided into six paexets with the following major topics, general instoducton to the effects of a growing population, ur-banization, family structures, family planning, consumption, environmental decay, and controising the environment Each packet contains a last of the topical concepts to be taught, the behavioral objectives and the expected student criteria for evaluation precests and posttests. teacher background information, a suggested instructional sequence, a student booklet with instructions, acts tites and teles ant readings, and a teacher bibliography. (MLB)

SO 007 870 Teaching Resource Recovery in Social Studies. Resource Recovery Education Program.

National Association of Secondary School Principals, Medington, D.C., National Center for Resource Recovery, Inc., Washington, D.C. Pub Date 74

Note-13p , Related documents are SO 007 g66-

Available from—National Association of Secondary School Principals, 1904 Association Drive.
Reston. Virginia 22091 1512 00 for Kit, 20 discount on orders of five or more?
EDRS Price ME-50 75 HC Not Available from EDRS. PLUS POSTAGE

Descriptors-Class Activities, Community Study. *Conservation (Environment). Course Objectives, *Ecology, Economic Factors, Energy Conservation, *Environmental Education, Interdisciplinary Approach Political Issues. Ouestioning Techniques. Resource Materials. Secondary Education Social Problems *Social Studies, Teaching Methods, *Waste Disposal

This guide one component of the Resource Recovery Education Kit (see SO GIT 866 for a description). Contains ideas and activities for teaching about solid waste disposal in secondary level social studies classes. Among the course objectives are the following (1) to explore the impact of our society on the problem of solid wester and the need for effective management (2) to encourage student activities, and involvement in environment conservation (3) to examine technological developments which can reduce the problems and costs of refuse eatlertion, and (4) to become aware of how local economic, politi eal, and social problems are related to solid waste disposal and how local situate its differ. Teaching strategies include having students conduct inter views, polls, and studies of the local community and classroom discussion. The guide curvists of fice major study units (1) Solid Waste A Growing Problem, (2) Collection and Transportation. (3) Disposal. (4) Resource Recovery and (5) Solid Waste Management Systems Objectives. student activities, questions for discussion and

research, basic understandings to be developed. int. (Author/RM)

Tanner, R Thomas

95

The American and His Environment—A Social Sciences Course, Project Reports, Volume 2, The Rachel Carson Project.

Corvalis School District 5091, Oreg Spors Agency—Office of Education (DHEW). Washington DC Office of Environmental Education

Bureau No-BR-1-0839 Pub Date Sep 72 Grant-OEG-0-71-4623

Note-73p , Related documents are SE 017 047-

Price MF-\$0.75 HC-\$3.15 PLUS EDRS POSTAGE

Descriptors—"Conservation Education. "Curreu-lum Guides. "Environmental Education. In-structional Materials. Interdisciplinary Ap-proach. Learning Activities. Natural Resources. "Secondary Education, "Social Studies, "Secondary Education, "Soc Teaching Guides Identifiers—"Rachel Carson Project

This document is the second of seven volumes included in the Rachet Carson Project. The project attempts to introduce environmental lessona and units into existing courses of study within a high school rather than to implement environ. mental education through the introduction of new courses. This valume focuses on the social science area by emphasizing environment through Stuart Udan's THE OLIET CRISIS. The unit concludes with a study of participatory democracy in contemporary America with specific conservation organizations as examples. The volume includes THE OUIET CRISIS unit, suggested methods of instruction including games, contemporary music. and projects, a study of conservation organiza-tions, a discussion on the meaning of "environ-mental backlash", and examples of students' deas solicited from an assignment regarding a and ethic for the future. (MLB)

EĎ 099 232 88 Jungias. Mary R

And Others Environmental Learning Esperiences: Socio-Cul. tural, Senior High School. Willoughby, Eastluke School District, Willoughby.

SE 018 435

Ohio

Spons Agency-Bureau of Flementary and Secondary Education (DHF.W.OE). Washing-

ton, D.C.* Pub Date 74 Nate-90p

Price MF.\$0.75 HC.\$4.20 PLUS EDRS POSTAGE

Descriptors....Conservation, Education, 'Curriculum Guides, Environment, "Environmental Education, "Instructional Materials, Leatning, Activities, Natural Resources, "Secundary Education, "Sociocultural Patterns, Teaching

Identifiers—Elementary Secondary Education Act
Title III. ESEA Title III

This environmental education curriculom guide was developed for teacher user at the sensor high school level. Although the guide deals with the socio-cultural aspects of the environment, it is designed to encourage an integration of the disciplines into an inter-disciplinary approach. The volume consists of a set of ideas, activities, and opinions which will help teachers and sfudeats generate a positive approach to the enseconment. The guide is disided into the following secon units. Each Thoughts, which deals with attitudes, their identification, variety mad selection.

Ouality of Life, which concerns the process of valuation. Environmental Inventory, which focuses on historical influences, their impact and importance. Environniental Management, which identifies how a community deals with the management of the environment. Pointes of Enmanagement of the environment contact of en-sitinments which involves student participation in solving environmental problems. Community Problems, which looks at the socio-cultural aspects of the community, and Futurism, which considers what people of the past and present retrieval the "future. Each unit contains an inabout the "future Each unit contains an introduction, stating the purpose and background. instructional ubjectives. es persences.

references. The espenences of each unit are based on an objective which relates to the subject of the unit Several activities are included in each espenience (TKI

ED 100 660 • 88 SE 018 351 American History, Environmental Education Guide.

Spons Agency—Bureau of Elementary and Secondary Education (DHEW OE). Washington, D.C. Wisconsin State Dept of Education. Madison

Pub Date [74]

Note-29p MF-S0.7S HC-S1.85 PLUS POSTAGE .

escriptors—American History. Conservation Education. Environmental Education. History ry, Instructional Materials, Interdisciplinary Approach, Learning Activities, Natural Resources. Outdoor Education, Science Education, Science Education, Science Education, Science Education, Secondary Education Act Tatle III, ESEA Title III, *Project I C E

This American history guide, for use at the secondary level, is one of a series of guides, K-12. which were developed by teachers to help incurrelium. The guides are supplementary in design, containing a seems of episodes (minilessons) that emphasize the relationship between current environmental problems and American economic, social, and political development. providing the student with succinet and ecalistic opportunities for involvement in environmental concerns. The episodes are built around 12 major environmental concepts that form a framework for each grade or subject area as well as for the entire K-12 program. Although the same concepts are used throughout the K-12 program, emphasis is placed on different aspects of each concept at different grade levels or in subject. areas. This guide focuses on aspects such as immigration, industrialism, and the civil way. Most of the 12 concepts are covered in one of the episodes contained in the guide Fuether, each episode offers subject area integration, subject area activities, interdisciplinary activities, cogniuve and affective behavioral objectives, and suggested references and resource materials useful to teachers and students (Author/TK)

ED 100 674 SE 018 365 88 -World History, Environmental Education Guide.

Project I-C-E. Green Bay, Wis

Spons Agency—Bureau of Elementary and
Secondary Education (DHEW/OE). Washington D.C. Wisconstn State Dept. of Public Instruction, Madison Pub Date [74]

Note-33P EDRS Price POSTAGE MF-s0.7s HC-s1.8s PLUs

Descriptors—Conservation Education. *Environmental Education. *History. Instructional Materials, Interdisciplinary Approach, Learning Activities, Natural Resources, Outdoor Educa-tion, Science Education, "Secondary Educa-tion, "Social Studies, Teaching Guides, "World Hallow" History

entifiers—Elementary Secondary Education Act The III, ESEA Title III. Project I C E

This world history guide, for use at the secon-try level, is one of a series of guides, K-12, that were developed by teachers to help introduce environmental education into the total curriculum stronmental education into the total curriculum. The guides are supplementary in design, containing a series of episodes (minifessons) that emphasize the relationship between current environmental problems and world, economic, so-cial, and political development, providing the student with succinct and realistic opportunities for involvement in fentitonmental concerns. The episodes are built-around 12 major environmental efficients that form a framework for each student with students. concepts that form a framework for each grade or subject area, as well as for the entire k 12 program. Although the same voncepts are used throughout the K,12 program, emphasis is placed on different aspects of each concept at different grade levels of in subject areas. This guide focuses on aspects such as ancient history, value elarification, and world conflict. The 12 concepts

are covered in one of the episodes contained in the guide Further, each episode offers subject integration, subject area activities, interdisciplinary activities, cognitive and affective behavioral objectives, and suggested references and resource materials useful to leachers and students. (Author/TK)

ED 100 777 95 SO 008 066

Reinard, William

Investigating Environmental Problems in a High

School Biology Course for Grades 11-12.
Western Washington State Colt Bellingham
Husley Coll of Environmental Studies

Spons Agency—National Center for Educational Research and Development (DHEW/OE), Washington, D.C.

Bureau No-BR-0-0848 Pub Date Dec 71 Grant-OEG-0-70-5039

Note—18p., This document's part of the ungoing Seden-Woolley Project (up ED 061-118 and 066-363), Pages 15 through 39 from the appendix have been removed to conform with copyright laws

Price EDRS MF-S0.7S HC-S1.50 POSTAGE

Descriptors— Biology, *Ecology, *Environmental Education, Environmental Research, *Interdisciplinary Approach Models, Problem Solving, Secondary Education, Secial Sciences, Social Studies, "Values Identifiers—"Sedro Woolley Project

A woond year biology class at Sedro-Woolley High school is part of an interdisciplinary program designed to develop a heightened awareness of environmental problems. A model for such a course is explained and evaluated. Students awareness of values increases through the use of problem-solving techniques, audiovisual aids, articles and books, and school-community projects in pursuing environmental concerns. These learned values rest on sociological. Psychological, emo-tional, spiritual, and philosophical bases that in-terrelate with the values of scientific and technological developments. Through this, the student becomes aware that an environmental situation is the result of the celationship of man to his world in evaluating results of the study, two thoughts come to mind far the teacher involved in an integrated academic pringram (1) in keeping with the idea that all education is environmental education, one would conclude that ideas relative to environmental concerns should be interviewn into the total fabric of the educational process, and (2) a real challenge is presented to the teacher in preparing students to recognize our (society's cultural attitudes and value excleme and to provide a chance for the student to become adeat at evaluating these attitudes and values, his own as well as those of society, and at developing his own perceptions (Author JR)

ED 103 294

SO 008 120

Groham. Duncon A Study of Planet Three: A World Geography/Soelal Studies Course. Pub Date 74

Note-11p EDRS Price POSTAGE MF.\$0.76 HC-\$1.58 PLUS

Geography, Secondary Education, Social Stu-dies, Teaching Techniques, "World Geography, World Problems

Identifiers-Interdependence

This.12th grade course in world geography is based on the philosophical assumption that human beings on earth make up a global village of interdependent people. It is wigld geography with a planetary perspective—an injury into the nature of the planet and its dominant species. Homo Sapiens. Seven units eover the fullowing topics on physical and human aspects of our world, astronomical perspectives, the Place of earth in space and time, natural sharasteristics. rehel, chimate, and vegetation, population density and distribution factors affecting it, the needs of people, quality of life indices, evoluting diversity.

factors affecting the diversity from an historical perspective, and future trends. The subtopies of the farmes desembed in the course are to be filed out through the muty exploration of the students and teacher. Emphasis in the course is placed on individual research, Creative thought. and participation in group discussion for which students are expected to keep a diary Suggested with each unit are a variety of films, activities, particularly involving globe work, and various forms of tole-play, often using the theme of a spaceship approaching the earth Sources of films and factual data and for the global orientation are eited. (JH)

ED 104 794 SO 008 292 95 Campbell, Bruce Jamison, Sandra permittion, somethy campoetti, driftee
Pollation: Problems and Solutions, Grade evine,
Unit One, 9,1 Comprehensive Social Studies
Carriculum for the Inner City.
Youngstown Board of Education, Office

Spons Agency—Office of Education (DHEW), Washington, D.C.

Pub Date Jun 71

Note-78p.: For related documents see ED 070 693 and SO 008 272 through SO 008 300, Not available in hard copy due to marginal legibility EDRS Price MF-S0.76 HC Not Available from

EDRS..PLUS POSTAGE
Descriptors—Cstrzen Role, Ecological Factors. *Ecology, *Environmental Education, Grade 9. Learning Activities. Pollution. Secondary Education, Social Problems. Social Studies Units. Teaching Techniques. Urban Education Identifiers—Elementary Secondary Education Act

Title III. FICSS, Focus on Inner Cuy Social Studies

The ninth grade unit of the FiCSS senes (Focus on Inner City Social Studies -- see SO 008 271) studies the economic and political featibes of the inner city. This document, the first only of the 9th grade section, deals with the ecological crises involving pollution and its causes. Specific problems include air pollution, Pesticides, herbiides, water pollution, and population control. the unit provides both facts and scope of the erises and direction for positive action by citizens of all ager to aid in correcting the problems. Many of the learning activities in the unit will build skills in chart and graph reading as well as m interpreting pietorial data. Students also learn to utilize library sources and gather and interpret facts from field trips and interviews in an erfort to understand their own immediate environment Specific teaching procedures and strategies and knowledge, skitl, and behavioral objectives are outlined to aid the teacher in developing the concepts of the unit A bibliography of supplementary reading concludes the document (Author/JR)

ED 107 466 Berkonist, Gisha, Ed Levy, Alan, Ed.

Housing in the Urban Environment.

Group for Environmental Education. Philadel-phia. Pa., Pennsylvania Advancement School. Philadelphia, Philadelphia School District. Pa.

Note - 78p , Related documents are ED 045 426. SE 016 955 and 956

Přice MF-S0.76 HC-\$4.43 EDRS POSTAGE

Descriptors-Conservation Education. "Curneulum Guides, "Environmental Education, Housing. Instructional Malerials, Learning Activities, Metropolitan Areas, "Natural Resources, Outdoor Education. "Science Education, Secondary Education. Teaching Guides. *Urban En-

This booklet'focuses on housing, the most private human environment. The effects of hous. ing on one's social and physical worlds, and in turn on one's attitudes toward the total environ. ment, are examined. The activities in this booklet aim to develop an understanding of space within the housing environment, types of housing, and how one can change and control this type of engramment. The 14 lessons contained in this unit deal with such housing factors as income, family size, taste, the choice process housing needs, lo-cation, neighborhoods, and problems. Each lesson includes objectives and a porpose, a materials list, and several activities. The activities involve discussion, refle playing, simulation, problem solvteacher use suggests additional activities and provides further directions for use of the booklet. The final section prepared by the Housing Atsociation of Delaware Valley provides advice on solving neighnorhood problems (TK)

SO 008 265 ED 107 S49 Peierr. Richard () The World of Man: A Curriculum Guide.

Note = 65p EDRS Pr MF-S0.76 HC-S3.32 PLUS Price POSTAGE

Descriptors - * Anthropology. Conservation (En *tronment). Cultural Background. Curriculum Guides. Ecology. *Environmental Education. Eneitonmental Influences, Instructional Materials. Interdisciplinary als. Interdisciplinary Approach, Natural Resources, Overpopulation, *Pollution, *Population Education, Secondary Education, "Social Studies Units

This one semester, ecology-oriented, eleventh or twelfth grade elective course exposes students to the problems of environmental degradation to the problems of environmental degradation and makes them aware of mans attempts to remedy erisis situations. The curriculum thade is divided into three major topics, each comprised of several subtopies which include content objectives, and suggested materials. Topic II. Man second on the Earth, examines the sub-topics of Topic II. "The Population Problem, studies the distribution of the world's péople dynamics of contribution growth, and the effects of Dobulation population growth, and the effects of Population patterns on the environment Topic III, "Economics, Politics, and Conservation," expires the utilization and degrada you of our natural resources (Author/DE)

'ED 110 396 SO 008 539

Cohan. Mark E. Gustafson. Netl C.
Population and Social Change: A Curriculum Guide for High School Teachers,

Copy.

Upper Midwest Research and -Development Councit, Minneapotis, Munn.

Pub Date Sep 74

Note—38p.
Avaitable from "Upper Midwest Council, Federal
Reserve Bank Building, Minneapolis, Minnesota 55480 (\$1.00)

MF-S0.76 Price HC.S1.9S PLUS POSTAGE

Descriptors—Corriculum Guides, Demography, Environmental Education, *Futures (of Environmental Education, "Futures (of Society t. Learning Activities, "Population Distribution, "Population Education, Population Growth, Secondary Education, "Social Change, Social Factors, Social Problems, Social Sciences, "Social Studies"

This curriculum guide for secondary students contains learning activities on population and soeral change. The guide revolves around four major concepts. The first concept is population change which refers to the numerical increase or decrease of population. Population distribution is the second major concept which refers to the pat-terns of where people live. Included are references to economic, cultural, geographic, and psychological factors. The third concept is the effects of population change on both the natural and man-made environments. Planning for the future is the last concept covered in the curriculum guide. For each of the concepts, one major learngotte for each of the concepts, the major fearning activity is included with questions, supporting concepts, and evaluation. The guide lists suggested instructional objectives as well as an evaluation form for teachers to rate the curricutem eguide Ideas for additional learning ca-periences and sources of further information con-clude the document. (Author/JR)

ED 111 716 SO 008 549

Oakley, Dehorah
Population Stabilization in the United States: A
Teaching Case Study.
Spons Agency...Ford Foundation. New York.
N Y

Pub Date 75

Note-18p Journal Cit-Teaching Notes, no p45.61 Falt/Winter 1975

Followinter 1975

EDRS Price MF-S0.76 HC-S1.58 Plus Postake
Descriptors—Birth Rate, Demography, *Futures
(of Society), Higher Education, Political
Science, *Pupulation Education, *Population
Growth, Population Trends, Role Playing.

Secondary Education. Simulation. Social Stu-dies Units. Teaching Techniques A simulation of a Congressional hearing on na-

tional population policy is provided University students and community members decide on a resolution introduced in the United State Senate in 1971 which proposed the stabilization of population growth Students organize themselves into feur interest groups-Black Americans, business. conscivation-chylionment, industrial. and women's rights-and present testimon, before the hearing. The teacher is required to recruit outside persons as Congresspersons who will eventually decide whether to recommend the resolution to the Senate Background information on United States Population growth and projected future population increases are provided in the unit. Three evaluation methods, a list of possible associated activities, and a bihliography for each of the four lobbying groups are also included (DE)

ED 113 215

Environmental Decisions, Teacher's Guide, En-vironmental Educition Unit, Ninth Grade Civies, Revised. Little Rock School District. Ark Pub Date [75]

Note-87p. For related documents, see SO 008 427, 429, and 652 A few pages are of mar-

ginal legibility EDRS Price MF-S0.76 HC-S4.43 Plus Postage Descriptors—"Civies: Curriculum Guides. "Decision Making, Ecology. *Environmental Educasion Maxing, Ecology. Environmental Educa-tion. Grade 9, Interdisciplinary Approach, Learning Activities, *Local Issues, Pollution, Secondary Education, Short Courses, *Social Studies Units, Student Centered Curriculum.

Teaching Techniques
Identifiers—"Environmental Education Project.
ESEA Title Ili

Part of a sequential series of curriculum units in environmental education for grades 4 through 12, this curriculum guide for grade 9 focuses on identifying problems, formulating hypotheses, considering alternatives, and making decisions in environmental education. The activities include the showing of films, making environmental decisions, simulations, and an off-campus field frip The unit includes an overview, major concepts, behaworal objectives, a daily schedule, lesson plans for the classroom activities and the field trip, a precest, and student and teacher evaluation forms. The unit is three weeks long, multidisciplinary in nature, and structured around studententered activities in which emphasis is placed upon the study of the local environment (Author/IR)

ED 113 216 SO 008 429 Environmental Problems of the United States.
Teacher's Guide. Environmental Education

Unit., Eleventh Grade American Illistory., Little Rock School District. Ark.

Pub Date [74]

Note-91p.. Not available in hard copy due in marginal legibility of original documents. For re-lated documents, see SO 008 427, 428, and

EDRS Price MF-S0.76 Plus Postage. HC Nol Avsilable from EDRS.

Descriptors-Curriculum Guides, "Ecology, "Environmental Education, Grade 11, Instructionat Materials. Interdisciplinary Appruach, Learning Activities. *Local Issues. Pollution. *Population Education. Resource Materials. Secondary Education. Short Courses.. *Social Studies Units, Student Centered Curriculum, Teaching Techniques

Identifiers—'Environmental Education Project. ESEA Title III Part of a sequential series of curriculum units in environmental education for grades 4 through 12, this curriculum guide focuses on environmental problems in the United States for eleventh grade students. This offit is designed to make the rtudent aware of how the problems of the past become critical problems of the Present Astrotechnology, pollution, environmental careers, and involvement in an urban encounter field trip. The unit includes an overview, major emorphisms includes an overview, major emorphisms. behavioral objectives. • daily schedule, lesson plans for viassection activities and the field trips, career opportunities in ensuranmental education. prefest and possibility and student and teacher evaluation. The unit is three weeks long, mul-

10.3 -

indisciplinary on nature, and structured around student centered activities in which emphasis is faced upon the ciudy of the local environment (Author/JR)

ED 113 256 SO 008 652 Population Problems, Tencher's Guide .- Environmental Education Unit. Twelfth Grade Sociolo-

Little Rock School District, Ark

Pub Date 1751

Note—70p, Not available in hard copy due to marginal legibility of original document. Re lated documents are SD 008 427-429 EDRS Price MF-\$0.76 Plus Postage. HC Not

Available from EDRS.

Descriptors - Curriculum Guides *Demography,
*Environmental Education, Grade 12 Instructional Materats. "Dverpopulation, "Population Education, Population Growth, Secondary Education, Social Influences, Social Studies Units.

Sociology, Teaching Guides,
Identifiers— Environmental Education Project

ESEA Tale III

Human population growth and the implications of increasing population on the well-being of men and nations is examined in this twelfth grade curriculum guide which is part of a series for grades 4 through 12. The primary functions of the unit are to introduce the student to reasons for population growth, results of overextended popula tions, and solutions to overpopulation Considera-tion is also given to political and sociological problems which arise as adjuncts to the question of population. The component parts of this guide are, an overview of the unit the major conceptsin the unit, behavioral objectives, daily schedule." lesson plans for elass-oom activities, a prefest for the unit, and student and teacher evaluation forms. The unit requires three weeks to complete, and is structured, around 15 student-centered activities which include films, survey questionnaires. filmstrips, student readings, discussion activities data analysis, and tole playing (Author.DE).

ED 113 269

SO 008 673

Kloff, Vivian Handler, Paul omputer Assisted Instruction of Population Dynamics: A New Approach to Population Edu-cation, Report No. T. 19.

Illinois Univ. Urbana Coordinated Science Lab pons Agency—Agency for International Development (Dept. of State), Washington,

Pub Date Aug 75

EDRS Price MF-\$0.76 HC-\$3.32 Plus Postage Descriptors— *Computer Assisted Instruction, Computer Oriented Programs, *Demography, Instruction. Educational Innovation, Futures (of Society). Global Approach, Higher Education, Instructional Media, "Population Education, Population Growth, Population Trends, Secondary Education. *Teaching Techniques. World Af-

Available on the University of Illinois PLATO IV Computer system, the Population Dynamic Group computer-aded instruction program for teaching population dynamics is described and esplained. The computer-generated visual graphics enable fact and intuitive understanding of the dynamics of population and of the con-cepts and data of population. The basic program is a population projection model which can forceast the population of over 120 countries, based on either constant or changing 1970 demographic parameter assumptions. Basic data are 1970 total population, age composition categorized into 18 live-year intervals, period age specific fertility rates, and a cohort specific mor-tality rate schedule. Other programs in the series contribute additional parameters including economic development, educational developments economic development, educational development food demand and supply, energy demand, labor force analysis, migration and urbanisation, population history, and birth control usb. These maleris', esphain how to use the system; provide information on concepts, definition, and the program algorithms, and provide suggestions for the other is applications. practical applications (Author/DE) of the Program.

ED 114 254. 95 SE 018 JJD" Population Inquiries: U.S. and World Dynamics.

1 niv Bloomington Population Edven-

tign Project Spons Agency - Office of Education (DHEW).
Washington. DC Office of Environmental Education

.

Pub Date 74 Grant -- OEG-0-72-5143

Nore -215p. For Volume 2 see SE 018 111 EDRS Price SIF-S0.76 HC-S10.78 Plus Postage Descriptors - Conservation Education. *Curricu-

lum Guides. Environmental Education. In-structional Materials. Interdisciplinary Ap-Proach, Learning Activities, Natural Resources, Outdoor Education, "Population Education, Population Growth, Population Trends, Science Education, "Secondary Education, Social Stu-

dies. Teaching Guides

This instructional unit on population issues for use in high school social studies-classes has been designed to provide the social studies teacher with a wide cariety of instituctional options. These are offented toward providing non-college-bound juniors or seniors with visually stimulating activity-oriented instruction on vital social issues relating to population change. This unit is divided into three chapters. Chapter 1 is a description of the project design and development. Chapter 2 provides a brief overview of the purpose and structure of the unit along with suggestions for using the unit in the classroom. Chapter 3 consists of the instructional unit, which contains a series of activities each including a purpose, learning goals, teaching schedule, teaching aids, learning aids, teaching procedures, student application exercises, notes to the teacher, and student confirmation sheets. A section of student materials is a also included along with a teacher idea grabbag Resource materials are listed throughout the innaterial, a visual questionnaire, fole-playing and sides. A separate pamphlet, entitled "Population Pendulum," is also attached, (TK)

ED 116 981 SO 008 795 Teaching About World Hunger, No. 5419. United Nations Children's Fund, New York, N Y United States Committee

Pub Date [75]

Note—63p. Not available in hard copy due to marginal legibility of original document.

Available from—U.S. Committee for UNICUF. School Services. 331 East 38th Street. New

York. New York 10016 (Order No. 5419. \$1.501

EDRS Price MF.S0.76 Plus Postage off Not Available from EDRS.

Descriptors—Class Activities. Decloping Na-tions. Economic Disadvantagement, Food, Fu-tures (of Society). Global Approach tures (of Society), Global Approach, Hunger, Instructional Materials, International Organizations. Programs. International Resource Materials, Secondary Education, "Social Studies Units. Teaching Féchniques. World Problems

World Problems

This secondary-level resource unit surveys hunger and malnutration in developing countries and the interdependent factors affecting world food supplies. The main part of the unit is devided into four sections which examine the historials. health and geographical economic and political, health and nutritional, and egypromental and cological factors concerning the world food shoringe. Suggested classroom activities and questions are provided for each section. Also in the unit are additional classroom activities and readings including a simulation game, comparison charts of food comumption, protein conversions, and world population data, an historical essay on hunger, a descriptive essay on the green revolunonger, a descriptive essay on the green recons-tion, a summary of the World Frond Conference Resolutions, and an annotated list of related materials Hard copy, available through UNICEF, contains an issue of UNICEF NEWS.... world child emetgeocy wallsheet, two United Nations Development Program brochures and posters, a UNICEF brochure, and a 1975-76 UNICEF publications catalog (Author/DE)

ED 118 486

\$0,008 885

Beet, Orana Darnall buggested Materials and Themes for a Study of Population in Secondary Social Studies.

Puh Date Aug 73 Note-194p, Muster's Thosis. The University of

Texas at Austin EDRK Price MF-\$0.83 HC-\$10.03 Plus Postage Descriptors-Annotated Bibliographies, Demog.

raphy. Educational Resources. Environmental raphy, Educational Resources, Educational Relations Education, Instructional Materials, Learning Activities, "Masters Theses, "Population Education, "Population Trends, Secondary Education, "Social Studies, Teaching Techniques, World Geography

The main objective of this thesis is to suggest Materials for use in secondary social studies class. rooms for improvement of instruction on popula-tion and world geography. The thesis provides background information on population, a listing of sources where additional information can be found, and major generalizations, discussion questions, and, related activities which can be questions, and, related activities which can be used in the glassroom. Annotated hibliographies of available materials are organized within broad subject categories, including basic tracher references, organizational sources of additional population information, suggested themes for a study of population, and solutions to the population problem. Each category begins with according to the problem. tion problem. Each category begins with author-commentary and follows with the bihlio-graphic information Entries are alphabetized by author and include title, publisher, and date. Extensive annotations are presented, giving the reader an idea of the breadth and scope of the individual materials (Author/JR)

ED 118 526

- SO (iii)8 954

Gameries, Robert
Unit on Political Decision Making and Action Strategy over a Local Environmental Problem.

Spons Agency—Horida State Dept of Iducation.
Tallahassee Office of Engromment Educations
Pub Date 75

EDRS Price MF-\$0.83 HC-\$2.06 Pluc Postage Descriptors—Class Activities Conflict Resolution. Decision Making "Liner amental Edu-cation, Instructional Materials Political In-fluences, "Political Issues Political Power, "Political Segence, Public Politics Resource Materials, Secondary Education Social Studies, "Social Studies Units Teaching Techniques. Values

This unit prayides six lessons in which cludents This unit prostops are lessons in which diddents desclop as strategy for political action on a local confironmental, issue. The unit emphasizes the process of solving political problems within the political system and may be adopted to any geographical or social problem. The first lesson introduces a general encironmental issue and tequires students to make a value decision. two, the students comme a local encrommental problem in publical terms through a simulation and o need trip Lesson three is a simulation which introduces students to the concepts of confleet, conflict solution, and decision making. Leeson four is a slide discussion of the various kinde son four is a side discussion of the various and of political power. Lesson five proceeds readings and questions for a decusion on how organized political-pressure groups work lesson six requires the students to formulate their own political strategy for a solution to the incircum mental issue. Except for auditorious financials, the student continual of the processor of the contract of the contr this unit contains all the necessary ctudent readings, teaching instructions, discussion questions, and evaluation questions for the unit

ED 120 068

SO 008 970

Gilletpie, Judith 4. Luturus Stuare Clean Air Nuw: Political Iceves, Comparing Politi-

cal Reperiences. Experimental Edition.

American Pulitical Science Association, Washington, D.C., Social Studies Development Center. Bloominetun, Ind.

Spons Agency-National Science Foundation. Washington, DC 7

Pub Date 75% Note - 144p. For related documents, see \$0.008 957.972

EDRS Price MF. SO. 83 BC. \$7.35 Plus Postage

EDRS Price MF-50.83 IRC-57-35 Plus Philage
Descriptors—Case Studies, Uhange Strategies
Class Activities, "Community Action, Commu,"
nity Change, Concept Teaching, Course Content, Documentaries, Grade 12 Interpetional
Materials, Political Influences, "Political Isorics,
"Philitical Science, Politics," "Political Science,
dary Education, "Social Studies Units

Identifiere-California (Riverodes *Comparing Pulitical Experiences, 11sch School Pulitical Science Curriculum Project

The fourth unit to the second-semester Comparing Pulitical Experiences course focuce un a

104

specifie, controversial political issue Using a documentary approach this unit analyses the concept of political change by examining the hanges in Riverside California, as that community confronts the issue offening the unit is divided into five student activities. The first activity southern California, the geographic area of southern California, the causes and effects of smog the effect of smog on Riverside and the political environment in Riverside Acres 2 esplores the concept of mobilization and how it has affected the smog issue. Activity 3 introduces the concept of political inho-ation and the way it aifeets change Students tocus on the coult case "Riverside vs. Ruckelshaus" as an illustration of political innovation. Activity a examines how the concept of interdependence affects change and the extent to which Rivalside became interdependent with aspects of the political environment.
Activity 5 teaches students how to forceast the future of a political system experiencing change by examining alternative futures for Riversee by examining alternative futures for Riversee Each activity contains the necessary student materials and student discussion quextions. A data packet of supplementary readings and exer-cises is also included. I Author DE:

ED 120 069

SO 008 971

Gillespie. Judish A Lozorut, Stuget Clean Air Now. Teacher's Guide: Political Issues.

Comparing Political Experiences, fixperimental

Ametican Political Science Association, Washing-tion, D.C., Social Studies Development Center, Bloomington, Ind

Spons Agency National Science Foundation. Washington, D.C.

Note-84p, For related documents, see SO 008 957.972

EDRS Price MF.50.83 Hospital resolutions of the Descriptors—Case Studies, Change Strategies, Class Activities, "Community Action, "Com-Congent Teaching "Course EDRS Price MF-50.83 HC-\$4.67 Plus Postage munity Change. Concept Teaching *Course Objectives. Documentaries, Grade 12, Instructinnal Materials, "Political Issues, "Political Science, Pollution Secondary Education, Skill Development, Social Studies Units Teaching Guides Teaching Procedures

Identifiers-California (Riverside). 'Comparing Political Experiences, High School Political Science Curticulum Project

this teacher's guide in unit four of the second. this teacher's guide in unit four of the second-course provides specific objectives and instrustional procedures for each of five activities which facus on the smag problem in Riverside, Califorquality addition, the guide provides instructions for confidenting the use of the student text acdiovisual material, data Packet, and skills kid our the unit. The introduction contains a statemen of the general rationales knowledge unjuggedes analytical, moral reasoning, and particing that has objectives, instructional design, and countries materials for the course and the unit knows (2) the Riverside documentary provides a ec example of a system experiencing change ideality, students will move from the Riversida case as an illustration to knowledge of the concept of positical enunge, and bestind to extending it is knowledge of change to their own acrossics ineluded are reaction forms to be filled out ? teacher in evaluate the effectiveness of the unit (Author/DE)

ED 121 653 95 SO 009 012 Allen, Rodney F.

The Ethics of Environmental Concern: A Rationale and Projetype Materials for Environ-mental Education Within the Humanistic Tendi-

mental Education Within the Humanistic Tradi-tion, Final Report, Volume 2.

Florida State Univ., Tallahassee.

Spons Agency—National Center for Educational Research and Development (DHEW/OE), Washington, D.C., Office of Education fD-HEW), Washington, D.C., Office of Environ-mental Education mental Education.

Note = 202p.: For related documents, see SO 009 013.015

EDRS Price MF-\$0.83 HC-\$11.37 Plus Postage Descriptors-City Problems, Class Creative Development, Elementary Secondary Education, *Environmental Education, Instruc. tional Materials, *Learning Activities, Skill Development, Slow Learners, Social Studies, Social Studies, Units, Urban Culture, Urban Environment

Identifiers - *Environmental Education Project As part of the series of student materials developed by the Environmental Education Projeet at Florida State University, this volume contains three instructional units on urban Environ. ment Designed for upper-elementary and secondary students, the materials require only low-level reading abilities while insisting on high-level participation. The first unit contains 59 student ac-tivities and exercises to help students develop tensitivity toward and awareness of their natural and man-made environments. Unit 2, on city environment, provides 39 student activities and ex-ercises which require students to express them. selves creatively These activities make use of a student's imagination and ability to fantasize and express private thoughts via art, musie, dance, stories, poetry, drama, and invention. Unit 3 contains three lessons which stress students' social participation in the life of their community. These three lessons contain 46 separate activities and exercises designed to help students develop then apply these skills to community problems. Each unit also contains instructional objectives and procedures (Author/QE)

ED 121 654 \ \$O 009 013 Allen, Rodney F.
The Ethics of Environmental Concern: A Re-

tionale, and Prototype Materials for Environ-mental Education Within the Humanistic Tradi-

mental Education Within the trumanistic arau-tion. Final Report. Volume 3. Florada State Univ. Tallahassee Spons Agendy—National Center for Educational Research and Development (DHEW/OE), Washington, D.C., Office of Education (D-HEW), Washington, D.C. Office of Environ. HEW), Washingt mental Education

Bureau No-R021079 Pub Dafe 30 Sep 73 Grant-OEG-0-72-5145

Note = 92p For related documents, see \$0 009 012-015

EDRS Price MF-\$0.83 HC.\$4.67 Plus Postage
Descriptors—*American Culture. *American
Literature. American Studies. Cultural Factors. Environment, *Environmental Education, In-structional Materials, Interdisciplinary Ap-proach Learning Activities, Life Style, Secondary Education, Social Studies, *Social Studies

Units. United States History. Values
Identifiers— Environmental Education Project
As part of the series of student materials As part of the series of student materials developed by the Environmental Education Project at Florida State University, this volume contarns three units for American history. American studies, and American literature courses Selected readings from literature are presented to help students examine human values about the environ-ment from an historical prespective. Designed for secondary students, each unit begins with an analytical model to test the values and life-style dispositions in the reading selections. The first unit examines six literature selections from colonial and early American history, using a model developed by anthropologist Clyde Kluckholm This model provides an ideational relationship between goals, values, and commitments exhibited in the literature selections. The second unit employs the creative process model of landscape architect, Lawrence Halprin, to examine environmental values from seven literature selections written around the turn of the century The final unit requires students to analyze life, styles from seven literature selections about the present and future using a set of value-clarification questions. Each unit includes a set of student discussion questions and teaching objectives. (Author/DE)

SO 009 014 ED 121 655 95

Allen, Rodney F.
The Ethics of Environmental Concern: A Resionale and Prototype Materials for Environmental Education Within the Illumanistic Tradition. Final Report, Volume 4. Florida State Univ., Tallahassee.

Spons Agency-National Center for Educational and Development (DIIFW/OE).

Washington, D.C. Office of Education (D-HBW). Washington, D.C. Office of Environmental Education Bureau No-R021079 Pub Date 30 Sep 73 Grant — OEG. 0.72.5145

Note-170p . For related documents, see SO 008

EDRS Price MF-\$0.83 HC-\$8.69 Plus Postage DING Frice Mr. 30.83 Ht. 38.09 rus restage
Descriptors—American Culture. *Cross Cultural
Studies, Cultural Factors, Environment, *Enwronmental Education, Global Approach, Instructional Materials, Junior High Schools,
Learning Activities, *Life Style. *Population
Education, Population Growth, *Social Studies Units. Values, World Problems

Identifiers - * Environmental Education Project As part of the series of student materials developed by the Environmental Education Project at Florada State University, this volume con-tains three instructional units dealing with popu-lation growth and perception of the environment. Designed for junior high students, each unit conan extensive introduction to orient a teacher-to-company concerns, rationale, objectives, les-son plans, student materials, and evaluation components Unit I includes 16 atudent activities that redute students to examine the variables of population change, problems of population growth the various stages of population growth. and ethical questions about the necessio mainiain a balanced relationship between population sire and the natural environment. Unit 2 contains [1 activities about how various world cultures pereere the environment (I nit 3 methods 12 student activities in which students tellect on the economic development of the United States and its implication on both the natural and interna-tional environmental situation (Author/DE)

95 ED 121 656 \$0,009,015 4

Allen, Rodney F.
The Ethics of Environmental Concern: A Rationsic and Prototype Materials for Environmental Education Within the Flumanistic Tradition. Final Report. Volume S. Florida State Univ . Tallahassee

Florida State Univ. Tallahassee
Spons Agency—National Center for Educational
Research and Development (DHEW/OE).
Washington. D.C., Office of Education (D-HEW). Washington. D.C. Office of Environ.
mental Education
Burcau No—R021079
Pub Date 30 Sep 73
Grant—OEG-0-72:5145
Note—960. For estated documents, see SO 000

Note-96p. For related documents, see SO 009

EDBS Price MF.\$0.83 HC \$4.67 Plus Postage Descriptors— Chinese Culture. Class Activities, Environment. Environmental. Education. Ethics, Instructional Materials Anterdisciplinary Approach, Learning Activities, *Life Style, Poetry, Secondary Education, Self Actualizarion, Social Studies, "Social Studies Units, *V alues

Identifiers - * Environmental Education Project As part of the series of student materials developed by the Environmental Education Project at Florida State University, this volume con-tains three diverse instructional units integrating values and environmental education. Designed for secondars students, each unit contains lesson plans, objectives, and student readings. Unit I provides eight student activities focusing on the effect of ancient Chinese values and modern philosophy on Chinese life-styles and attitudes loward the environment. Unit 2 lists the components of student 'messing about' kits which contain familiar objects such as pletures, seeds. booklets, and cans as well as instructional media Students examine the objects in the kit in order to arrive at greater environmental awarenets and elatify their values about the life-styles necessary to maintain a balanced relationship with nature Unit 3 uses poetry and personal reflections about trees to involve students in man's disposition toward nature and others (Author/DE)

ED 125 925

'\$O 009 151

Bill. Ernin What Is All This Dam Foolishuess? Instructional Attibities Series 1A/S-2.

National Council for Geographic Education Pub Date 75

ote-10p. For related documents, see ED 0yn 235 and SO 009 [40.167]

North Marion Street, Oak Park, Illinus 60301 8050, secondary set \$15.25)

EDRS Price MF-\$0.\$3 Plus Postage, HC Not

EDRS Price MF-50,83 Plus Postage, MC Not Available from EDRS.
Descriptors—Case Studies, 'Classroom Games, Conflict, Conflict Resolution, Construction Needs, Ensitionment, 'Geographic Converge 'Geography Instruction, Instructional Marylass, 'Land Use, 'Learning Activities, slaps Role Playing, Seenndary Education, 'Simbia tion, Teacher Developed Materials

The activity is one of a series of 17 teacher.

This activity is one of a series of 17 teacherdeveloped instructional activities for geography at the secondary grade level described in SO 1979 140 This activity investigates the proposed construction of a dam it employs a sincolations technique in which students debate the enablicing that may evolve between groups with differing goals. To provide background information and to set the scene for the simulation, two short newspaper articles discues erup yield invrease duc to strigation and land value increases. A letter to the editor and an afficie opposing the building of the dam are also included. Eleven foller are presented for various special and homeposisi in terest group members of the community who will of the state of th speculators, and a fisherman Each fide his usses the position offene person toward building a uam and offers reduces for hilding those positions. The names are debuted among the samus interest groups and eniminate in a special hearing. An environmental impact statement and a fact sheer describing such things as the east and advantages of the dam, are presented A map shows dam enostruction. (Author/DB)

SO 009 154

Lambers, Jack R Sright, Reath L Rookety Bay: Can Conservation and Development / Coesety Instructional Activities Series IA/S-5: National Council for Geographic Education

Note-11p. For related documents, see ED 096 23S and SO 009 140-167

Available from NCGE Central Office. 115
North Marion Street. Oak Parl. Illinois 60301
(50 S0, secondary set \$15.25)
EDRS Price 1F.S.083 Plus Postage. HC Not

Available from EDRS.

Assilable from EDRS.

Descriptors—Case Studies, "Conflict, Conservation (Concept), Conservation (Engrodment), "Conservation Education, "Development, Dialogue Discussion (Teaching Technique) Environmental Education," Geographic Concepts, "Geography Instruction, Illustrations, "Land Lise, Maps, Secondary, Education, Site Development, Teacher Development, Teacher

The activity is one of a series of 17 teacherdeveloped instructional activities for geographic at the secondary grade level described in SO 009 140 This activity investigates land use conflict between conservationists and developers in Flerida through dialogue and discussion approaches. A dialogue between two main charac proaches A distogue between two main characters is Presented which may be recorded or played by students to the dialogue. Suste, an eighth grader from New York, is visiting her uncle who is a resident of hampa. Florida The dialogue from idea data about a mineral swamp wildstracs Rootlery. Bay-which is an ideal nursers for birds and fish Susse and her uncle nursers for birds and lish Suste and her uneted discuss conservation and ecology measures in land development in neathy sites. The discussion pignits out that Rookery Bay will be affected by the growth and development surrounding it, and that developers need to employ ecological safeguards to protect these ateas. After the disabugue, atudents discussified relationship between environmental quality and quick financial gains. Maps of the area and swamp photographs are becomeded (DB) provided (DB)

50 009 156 ED 125 930 Veal. Willis D. Economic Development The Quest for Staterial Well-Being, Instructional Activities Series IA/S. National Council for Geographic Education Pub Date 75

Pub Date 75
Note—7p. For related documents, see ED 096
235 and SO 009 140-167
Available from—NCGE Central Office. 115
Sorth Marion Street. Oak Park, Illinois 60301
(\$0.50, secondary set \$15.25)
EDRS Peice \$15.50.83 Plus Postage. HC Not

Available from EDRS.

Desempiors-Case Studies. Consteuction Costs. *Developing Nations, Development, Dialogue, Economic Change, *Economic Development, Environmental Education, Foreign Countries, *Geography Instruction. Industrialization. Learning Activities. Middle Eastern Studies... Political Issues. Population Growth. Secondary Education, Sue Development, Social Change Teacher Developed Materials, Teaching

This activity is one of a series of 17 teacher-developed instructional activities for geography at the secondary grade level described in SO 009 140 The activity investigates economic change in developing nations II employs the dialogue ap ptoach Gisen data about the Assam High Dam in Egypt and about the environment of northeast Africa, students analyze the dam's contributions to the Egyptian economy and evaluate the societal and ecological problems that resulted from its construction. A chronological table of Aswan Dam developments, statistical data, a table of planned economic growth activity, and maps of Egypt and the Nile Conservation Works are provided. (DB)

ED 125,931

50-009-157

Fernald, Edward A Cenalers and Conservationists: The Projected Cross-Floride Canal, Instructional Activities Series 14.5.8. National Council for Gengraphic Education

Pub Date 75
Note—8p For related documents see ED 096
235 and SO 009 140-167

235 and SO 009 140-167
Available from—NCGE Central Office, 115
North Marino Street, Oak Park, Hinkris 60301150 SO, secondary set 515 25)
EDRS Price MF-50:83 Plus Postage, HC Not

Availabile from EDRS. Available from EDNA.

Descriptors... Case Studies. Conservation (Environment), Development. *Ecological Factors.

Economic Development. *Fovironmental Education Geographic Concepts. *Geography Instruction. Inductive Methods. Land Use. Learning Activities Engagement Stills (Surfal Struction and the Activities Locational Stills (Strelat Studies). Maps. Models, Physical Geography.

Problem Suking Secondary Education.

Teacher Developed Materials

This activity is one of a series of 17 teacherdeveloped instructional actualities for gengraphy al the secondary grade level described in SO 009 the secondary grade text described in 50 boy 140. This activity investigates environmental quality employing the problem-solving technique bring a map which shows the proposed ritute of the cross-florida burge canal as a frieal point, the general feady a classroom discussion on the government's reason, for constructing the canal and draws from the windents' hypotheses and/or and draws from the students hypothesis allowed problems regurding environmental change, land use, and plunning The students then develop a model for testing their hypotheses. Students can compare the model with one provided in the materials, called Model for Solving Environmental Outlies, Problems, Using data from maps and charts, students discuss the general requirements for the canal and the cultural and physical changes which are likely to occur when the canal is built. A culminating graduation activity mentyes students in a discussion of the use of models and maps in problem solving (Author/DB)

ED 125 933 SO 009 159 Clark, A Rees Cybrinsky, Roman A. Neighborhood Response in Land-Use Plannings A Role-Playing Game, Instructional Aelieitles Seeies 1A/5.10.

National Council for Geographic Education Pub Date 75

Note-22p; For related documents, see ED 096 235 and SO 009 140-167 Available from-NCGE Central Office

North Marion Street, Oak Flark, Illinois 60301 (\$1.25, secondary set \$15.29)
EDRS Price MF-\$0.83 Plus Postege, HC Not

Available from EDRS.
Descriptors—Conflict. Conflict*Resolution. Decision Making. *Gengraphy Instruction. Instrucson Making. "Occipation instructions Materials. "Land Lee Learning Activi-ties, "Neighborhood. Neighborhood Improve-ment, "Planning. Role Plaving Secondars Edu-cation. Simulated Environment. "Simulation. Social Environment. Social Studies Studient Participation. Teacher Developed Materials. Urban Environment

This activity is one of a series of 17 teacher-developed instructional activities for geographic at the secondary-grade level described in 140. The activity is a simulation which involves 15 to 25 sludents in making decisions about the best use of an inner city tract of land. The best use of an inner cut tract of land. The developers recommend that the game estend over at least three class periods, including a preparation phase, a role-plaving phase, and a discussion phase On the first day students read newspaper elippings, a secnario description and a City Planning Commission Hearing Worksheet and study a map of the area. Role eards (a. or eards, and bias eards are then distributed. There are three major sets of roles pianoing commissioners, enty-wide roles, and bocal community roles. On the second day the simulation begins with a hearing before the planning commission. Three vite and the planning commission. agenetes proposing desclopment plans-the public housing authority, the parks and rescration de-partment, and a private land descluper present arguments to support their choices. When each arguments to support their choices. When each has finished his presentation, the commission members may ask questions about the proposal Local entitiens from diverse social strata then testify, arguing for or against the various proposals. On the late day the planning commission an nounces its decision and the teacher leads a debriefing discussion. All materials needed for the simulation are provided (Author/DB)

ED 125 937 Allen. Rodney F. SO 009 163

Environmental Education es Telling Our Stories, Instructional Activities Series IA S-14. National Council for Geographic Education. Pub Date 75

Pub Date 75
Note—13p.. For related documents, see ED/096
235 and SO 009 140:167
Available from—NCGE Central Office, 115
North Marion Street Oak Payk, Illianly 60301
(50 75, secondary set \$15 25)
EDRS Price MF-SO.83 Plus Postage, HC Not

Available from EDRS. Available from EURN.

Descriptors.—Anthropology. Automographies.

Biographies. 'Environmental Education. Gengraphy Instruction. "Humanistic' Education.

Knowledge Level. Learning Activities. Life Styles Mythology. Philosophy. Religion. Secundary Education. Social Studies. 'Story Telling. Student Attitudes, Student Centered Currieu lum. Teacher Developed Materials *Teaching Techniques. *Values

This activity is one of a series of 17 teacher developed instructional activities for geographs at the secondary-grade level described in SO 009 140 The activity investigates the rise of state telling as illustrative of human values and as an appropriate medium for environmental education The author identifies a need for individuals to know who they are in relation to their environment, and he recommends reflective inquire on the many answers discovered by weightes and in-dividuals. Thus might burgraphy autobiography. and religious-philosophical literature are seen to he useful in communicating a world sixw and solv of values and in developing personal awareness and empathy in the reader Eighteen will twentying, and clarifying aemolities, are suggested for students to put themselves in touch with their continuous and account. Pironment Aming them are funtusies about the life of manimate objects and memories or past events in one's own life. A final exercise involves evaluating eight life styles, and rank ordering them by preference. (Author/DB)

EP 125 938 50'009 164 Allen . Rudner F

"This World Is So Beautiful...."r Feelings and At-Honal Activities Series IA .- 15.

Naturnal Council for Geographic Education Pub Date 75
Note—9p : For retaled documents, see ED 09h
235 and SO 009 140.1h7 Available from-NCGE Central Office. 115

. 106

North Marton Street, Oak Park, Illinois 60301 (\$0.50, secondary set \$15.25) DRS Price MF-\$0.83 Plus Postage, HC Not

Assiluble from EDRS.

Descriptors— Affective Objectives. Changing At litudes, Conservation (Concest) Conservation Education, Curriculum Deschipment Eculisis cal Factors, Ecology Environmental Cultury, *Environmental Education, Geography Instruc

*Environmental Education, Getigraphs Instruc-tion. *Humanistic Education Learning Astro-tics, Multimedia Instruction. Secundary Educa-tion, Social Studies, *Student Attitudes, *Stu-dent Centered Corriculum, Student Interests Student Reaction, Teacher Descloped Materials, Teaching Techniques The getting in one *Inf. a series of 1.2 Leaber.

This octions is one of a series of 1" teacher descloped instructional activities for geography at the secondary-grade level described in SO DOY 140 The activity meestigates the ranninale and means for including attitudes, feelings, and emotions in the environmental education cufficulum Explanation is given about the rule of authores and feelings in our reactions to environment. Sixdents should understand that their reactions to nature and other people are basically emolional and that coping with those emotions involves up derstanding cach situation and judging cach stimulus in order to help students understand their feelings and attitudes toward environment, several teaching strategies are suggested. These include discussion of pupular folk rock sings selection of certain material goods analysis of historical literature and corrent media content. and reflection on the meaning of Photographs from several points of view (Author/DB)

ED 137 065 Lantt. H. B . Jt

"No Deposit - No Return" What's It Costing Mc?

A Complete Program of Action.

Orange County School Board, Va.

Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE). Washington. D C ub Date Feb 75

ore-42p., For related document, see SE 021 528, Not available in hard copy due to margraal legibility of original document

Available from—Title III Environmental Educa-

tion Center, Orange County High School.
Orange, Virginia 22960 (no price quoted)

EDRS Price MF-S0.83 Plus Postage, HC Not Available from EDRS.

Descriptors—a Conservation (Environment), "Environment. Environmental Education, Higher
Education, "Instructional Materials, "Legislation, Natural Resources, "Pollouon, "Secondary Education

Identifiers—Elementary Secondary Education Act
Title III. ESEA Tide III. "Solid Wastes
This booklet of materials on how to achieve
beverage container legislation is the culmination of efforts of many people including students inpresentation. (2) a copy of the Oregon Bottle But and a progress report, and (3) a fact spect regarding the effect of beverage containers on raw materials, energy, litter, and economics (RH)

SO 01D D26 What's the lise of Land? A Secondary School Soclai Studies Project.

Jefferson County Public Schools, Lakewood, Colo, National Aeronautics and Space Administration, Washington, D C
Pub Date Oct 76

Note - 69p
Available from Superintendent of Documents
U.S. Government Printing Office, Washington,
D.C. 20402 (Stock Number 033-000-00665-9, \$1.45 paperbound) EDRS Price MF. 50.83 JIC. \$3.50 Plus Postuge.

Descriptors... Class Activités, Concept Forma-tion, Conservation Education. *Curriculum Development. Educational Objectives. *Environmenta) Education, Geographic Concepts,
"Geography Instruction," Interdisciplinary Ap-proach, "Land Use, Learning Activities, Maps. Map Skills, Physical Geography, Ritral Urban Differences, Secondary Education, "Social Studies. Social Studies Units, State History

ldenufiers_Colorado

A land use unit using information from space programs is intended to help secondary teachers develop, plan, and implement land use programs

int the social studies classroom. The subject of this unit is a flood control dant in Colorado. Interdisciplinary curriculum includes activities in mapmaking, environmental and mathematical studies, local community history, and physical geog-rapliy. The project may be used in in present form or altered to fit a land use investigation in an existing curriculum. The publication is divided into three major parts. Part I describes the muloutline, specifies objectives, suggests (or Land use studies, and outlines learning activit. In our ing aerial phintographs, drainage basins. Whit threats to a community, water volume during a flood, location of flood control dams types of dams, and effects of dam construction. This second part gives solvice on where to obtain and how to use data for surveys. Part III provides in formation on factors that influence land use and suggests class activities. Topics discussed include rural and utbari land use, transportation, com merce, agriculture, forestry, recreation, and enand a bibliography are included in the document (Author/DB)

· SE 022 679 Economic and Political Explosiation of Marine Resources. A Learning Experience for Coastal and Oceanic Awareness Studies, No. 235. [Pro-lect COAST].

Delawate Unix , Newark Coll of Education Spins Agency - Office of Education (DHEW).
Washington, D.C.

Pub Date 74 Note-37p. For related documents see SE 022

EI)RS Price MF-50 83 HC-52.05 Plus Postage. Descriptors - Consenution (Environment). Economies. "Instructional Materials, "Materials Resources, "Oceanologs, "Secondar Grades, "Social Studies, "Teaching Guides, Units of Stude

Identifiers_Project CDAST_Resource Utiliza-

This unit was designed for use his secondary lehool students in social studies classes. Materials are provided for four class periods. Emphasized is esphilation of mineral, thest and Journal resources found in the sea, included are suggestions to the teacher, student activities, assessnient materials, and a solective hibliography (RH)

ED 141 16# Simulation Game: Superport A Learning Experience for Coastal and Oceanic Awareness Studies, Sn. 311.4Project CDANTI.

Delaware Univ. Newark Coll of Education Sports Agency - Office of Education (DIFEW). Washington, D.C.

Note—43p. For related documents, see SE d22 = 762 ng? Contains occasional light type EDRN Price VIF-50/JO HC-52-06 Plus Postage.

Descriptors—Educational Games, Environment,
"Instructional Materials, "Oceanislogy,
Sciences, "Secondary Grades, "Simulation,
"Social Studies, "Teaching Guides, Units of Study Identations...Project COAST

Superport is a learning experience which requires students to examine how a superport and its related industries will affect the marine enstronment of a given geographical area. The activity is designed to provide roles for up to 90 students. The situation begins with the Mudents defining fucipes that might be related to the instalkation of a superport. Continued studies espose students to a wide tange of information sources and activities. The lesson plan could be expanded to cover a period of several weeks of chuld be confined to one week. It is designed Primarile for secondary sobool students in social skidies, (RII)

SQ 01D:433 ED 147 216 Clark. Leon E

The Cost and Value of American Children: A Teaching Module. Population Reference Bureau, Inc., Washington,

Pub Date 1771 Nofe - IRP

D.C.

EDRS Price MF-S0.83 HC-S1.67 Plus Posts Descripture—Behavioral Objectives *Child Rear-ing, *Childton, *Costs, Demography, Economic ing, "Children, "Costs, Cample Factory, Espenditures, "Family Mahor Education, Family Graphs. Higher Education, Inflation Leanurgy to Junior High Schools, Learning Missister Parent Role, *Population Education, Questionnaires#Secondary Education, *Student Autodes, Frend Analysis

The teaching module contains questionnaires, a cut in for consulting recessionmate resources, and texen mails species dealing with sosis and benefits to the ingression in the United States Intendeds we be students from jurnest high school through college the materials encourage students of clarify inest attitudes toward parenthood, help were examine, advantages and reasonables of facility frindren, expose them to data on the cost c raising children, and help them undertaind the third of culture and economy in shaping a success s perceptions of children. The first section the first section that the first section that the first section that the section is set that the secti in class activities. The second section contains data sheets. The first idata sheet poses six questions on the cost and value of children. The second data sheet provides a response form designed to facilitate collection and recording of questionnaire responses. Data sheets three, four, and five are graph, representing direct and in-direct costs of children at various stages of the life evelo. The usin data sneet tabulates results of a 1973 Hawaiian sures of advantages of parenthood. The final data sheet is a Quesuon-naire which directs students in section of opinion about children. Author/DH.

SO 010 486 ED 147 222 Spicer, Brian, Ed And Others Man and Space. The Global System, Level 1. Pub Date 72

Note—169p: For related documents, see \$0.010 [467-468, Figures, photographs and maps may got reproduce clearly due to poor reproduct, bility of original document

Available from Jacarando-Press. 65 Park Road. Milton, Queensland, Australia 3064 (\$6.07) EDRS Price MF-\$0.83 Plus Postere, HC Not

Available from EDRS.
Descriptors—Agriculture. Area Studies. Design Needs. Earth Science. Leological Factors. Edu. Needs. Earth Science, Leological Factors, Edu., cational Objectives, "Environmental Education, "Geography Instruction, Industrialization, "Learning Activities, Maps, Neighborhood, Physical Environment, Physical Geography, Secundary Education, Skill Development, "Social Studies, Teacher Developed Materials, Tembooks luentifiers—"Australia

Part of a geography series which stresses un-derstanding of the environment through mastery of specific skills and enneepts, the socondary level textbook examines environmental system) as they exist at present A system is defined as one of a large number of elements (people, eties, rocks, soils, air, clouds) which make up the enstronment. Although developed for use in Australian secondary schools, the material and activitest can be adapted for use in other countries by replacing Australian examples with other exam-plet more relevant to students. The text com-prises 15 chapters, 14+of which describe a specific system including the following desert. barner recf. swamp, farm, cattle stauon, mine. batter recf. swamp, farm, cattle stauon, mine, bakery, communication, authan and rural neighborhoods, and a garage repair shop Skills and objectives are listed in the introduction and tests are included throughout the text. The format of each chapter generally includes background information, altistrations, maps, graphs, and discussion quextions. Learning activities suggested to help students observe elements of a system and analyze sputial relationships between them include relationalizations, survively, libm. of a system and analyze spatial resistingships between them include rold playing, surveys, libm, by research, map work, class reports, debates, and field trips. The final chapter suggests questions and activities for evaluating student skills and on, derstanding of festual material. J Author, DB)

ED 147 223 SO DID 467 Spicer. Brian. Ed And Others Space In Change, The Global System, Level 2. Pub Date 73

Note-198p. For related discuments, see SO 010 466-468. Photographs, figures and maps may

not reproduce clearly due to poor reproductionary of original document railable from-Jacaganda Press, 65 Park Road,

Milton, Queethiand, Australia 4064 (\$6.00) / EDRS Price VIF-50 83 Plus Postage. HC Not Available from EBRS.

Descriptors-Agriculture, Area Studies, Commumism, Ecological Factors, Economic Change,
"Economic Development, Economic Progress,
"Environmental Education, Futures (of Sockety),
"Deographic Concepts, "Geography Instruction, Land" Life, Learning Activities, "Living
Standards, Population Trends Secondary Education, Social Change, "Social Studies, Social
Sistems, Technolis, Liend Annian Systems, Tectbooks, Trend Analysis enofices—Africa, "Australia, Europe (East).

Identifiers—Africa. Australia, Europe (East).
United States
Part of a geography series which stresses understanding of the environment through mastery
of specific skills and concepts, the secondary level textbook examines how and why different environments have changed through time. The book is presented in eight chapters organized around the three main themes of change in local areas, land use, and the impact of ideas on land use Chapters I and II describe recent anempts to increase the level of development and improve the standard of living in Tanzania and in the Kaira District of India Chapters III and IV ette recent intensive development which has occurred in outback Australia as a result of mining, imgation development, and seientific research. Chapters Wand \ I investigate the nature and process of development of the United States from 1607-1900 and provide case studies of farmers in North Carolina, Pennsylvania, and Iowa Chapter VII traces the changes which followed the tin-Woduction of communism in eastern Latines. The final chapter suggests questions and activities for evaluating student skills and understandings of textual material. The format of each chapter generally includes background information, illustrations, maps, graphs, and discussion questions in addition to activities such as tole playing, surveys, library research, map work, class reports, and written ossav assignments. Cognitive, affective, and psychomotor objectives are presented in the introduction (Author/DB)

ED 147 224° SO 010 468 Spicer, Brian, Ed And Others !

oduction and Space. The Global System, Level Pub Date 74

Note-283p. For related documents, see SO.010 466-467, Figures, photographs and maps may not reproduce elegativ due to poor reproducibility of original document

Available from - Jacaranda Press, 65 Park Road. Militon, Queensland, Australia 4064 (\$8 00) EDRS Price 411.50.83 Plus Postage. Assitable from LDRS.

Descriptors—* Agriculture. Developing Nations. Economic Change, Economic Climate. Change, Chmate. Economic Factors, Economic Progress, Environmental Education, Food, Futures (of Society), *Geographic Concepts, *Geography Instruction Human Geography, Industrialization, Industrial-Technology; Interaction, Living Standards, *Manufacturing, Secundary Educa-tion, Skill Development, *Social Studies, Ta-Skill Development.

bles (Data). Tectbooks Pan of a geography series which stresses understanding of the environment through mastery of specific skills and concepts, the secondary level textbook investigates the interrelationships between humans and the goods they produce. The book is presented in 26 chapters organized around five main themes. (1) agricultural privince tion, (2) manufacturing production. (3) difficulties that nien of different backerstunde expenence in living and printucing together, (4) the relationthip between living standard and health, and (5) interactions between men and specific environments. Cognitive, affective, and psychomotocamjectives are listed in the introduction, and a figal chapter suggests questions and activities for meaturing student matters of the anicolises. Chantet format generally includes background intimnation, illustrations, maps, graphs and discussion questions. Some chapters also include feaming activities such as library research map were, essay assignments, and model epiliprovition. The major learning activities, however, are presented in the final chapter in which condents are directed maleue skills developed throughout the global system series to hypothetical farm and factory data. Specifically, students are expected to construct a map and systems diagram of the farm and factory from intormation presented, explain the layout of each site, and determine, whether the uses so which men are putting inc sie are singable in terms of suggested variables (Author/DBI

PD 149 990 SE 023 460 Environmental Education, Values for the Future: Environmental Ethies, Grades 9-12.

Himory State Office of Education Springfield secondary Education (DHEW/OE), Washing ton. D C Pub Date 77

Grant - IOE-551-2-75

Note-45p . First related documents, see SE 023 448.457 and SE 023 459.469

EDRS Price VIF-\$0.83 HC-\$2.06 Plus Poctage. Descriptors- * Environmental Education, *Ethics, *Instructional Materials, Interdisciplinary Ap proach. "I caming Activities." Natural Resources, Science Education, "Secondary Education, "Teaching Guides, Values dentifiers—Elementary Sycondary Education Act

Tate III This booklet on environmental ethics is one of a series on environmental education for grades A-In this booklet for high school students the idea of a personal value system is developed and tested. Five basic behavioral objectives are given. along with a listing of appropriate supply areas. Three activity ontions has related to deen concept. Information for the activities includes materials and resources, procedures, and discusion questions and activities. The activities are interdisciplinary and include surveys, films, book reports, and field trips. Sample data sheets, sur-

ED 149 991 Environmental Education, Values for the Future: Environmentat Decisions. Grades 9-12.

illinois State Office of Education, Springfield Spons Agency—Bureau of Elementary and Secondary Education (DHE-V/OE), Washington, D.C Pub Date 77

Grant = IOE-551-2-75

ote-81p. For related discurrents, see \$E 023
448:457 and SE 023 459-465, Pages 72-76 "Legislative Scoreboard - the 94th Congress" and "The Right to Write" removed prior to heing chipped to EDRS due to copyright

cest netions EDRS Price All-\$0.83 HC-\$4.67 Prus Postage. Deschpions - Decision

Making of Skills *Environmental Education, Interdisciplinary Approach. •1.caming Plearning Activities, Natural Resolventiem Solveng, Science, Educ Sceundary Education, "Teaching Guides Resources. Problem Education.

Identifiers-Elementary Secondary Education Act Late III . This booklet on environmental decisions is one

to a series on environmental education for grades The articities are designed to involve high school students actively in the docision making process. The effect of using laws he a reliete for environmental improvement is also ceptured. Fisc base behavioral objectives are developed with subject areas and activities. There are three op-tional afterness per obsective and each includes a fiction of materials and thoughpe, procedures. and discussion questions. The activities are interdisciplinary and contain marks matters problems, games and simulations, role-plating, and case sigdice illustrations, sample, workshoots, and yearlings are also given (NA)

ED 149 992 SE 023 462 Environmental Education, Values for the Future:

Econômics, Grades 9-12. Illinois State Office of Education, Springfield Spong Agency Bureau of Elementary and Secundary Education (IMEW/OE), Washington, D.C.

Pub Date 77 Grant = 10E-551-2-75

Note-48p. For related documents, see SE 023i, 448-457 and SL 023 459-461 Configure occasignat light and broken type

EDRS Price MF. SQ.83 HC-SZ 06 Plus Postage.

Descriptors. *Escapomics !Encironmental Edu. ration, "Instructional Statemals, Interdisciona ry Approach, "Learning Activities "National Resources, "Secondary Education, Teaching Guides, Leghnology, Values

Identifiers-Elementary Secondary Education Act Title M

This booklet on coonomies is one in a senes on environmental education for grades k 12. The activities explore economic existents, haste out benefits, and the use of the cost benefit constain in assert the value of technology in modifying the approximation of the cost of the cost anvironmental quality Four have behavioral objectives are developed with subject are as and activities. Three activity options are listed for each objective. Information for these includes majors. als and resources, procedures, and discussion questions. The activities are interdisciplinary and are degigned for high school students. et was 9.7 12. Maps, tole eards; survey forms, and save stu-dies are also given (MA)

ED 149 995 SE 023 465 Environmental Education. Values for the Editore: Technology, Grades 9.12,

Illinois State Office of Education, Spendifield Spins" Agency - Bureau of Elementary and Secondary Education (DHEW/OE), Washing. ton, D.C. Pub Date 77

Grant-JOE-551.2.75

aute = 36p . For related documents, see SE 023 aux.457 and SE 023 459.464, Page 1 I Explanation of Universit Area I missing fenin discurrent print to being shipped to EURS for

firming Best Cope Acadable. FDRS Price MF \$0.83 HC-\$2,06 Plus Postage. FBRS Price VIF 50 B3 HC 18400 mental Educa-Descripti ro Economics, Environmental Educa-tion "Porturitional Materials, Interdisciplinal Approach "Learning Activities, Bural Approach "Learning Activities, "Teaching Recourses "Secondary Education, "Teaching Guides "Technology, Values Wentifiers—Elementary Secondary Education Act

This booklet on technology is one of a series in ensironmental education for gladys K-12. The ac-tistics in this booklet are concerned with the societal and ensironmental cists of technology Three have behavioral objectives are listed with activity Options and appropriate subject areas information for the nine autivities includes majers. ale and resources procedures, and discussion questions. These interdisciplinary ductivities, designed for grades 9-12, include surveys, games, studies, and experiments (MA)

Murphy, Claims M. Long, Alison (1 Population and Head of the Control of the Cont

Population and Thoman Metalopment: A Course Curriculum Including Coon Plans, Activities, and Bibliography, Revised.
Population Inst., Washington, D C
Pub Date Dec 77

Ninle-70p. Pages 41.43, 46.49 may not reproduce clearly in hard copy due to poor legibility of original document. For a related

legibility of original document, see, ED 121 691
EDRS Price MF-80,83 IIC-53.50 Plus Produce.
Bibliogra-Descriptors - Behavioral Objectives, Bibliogra-phies, Curriculum Guides, Demographya I du. eational Resources, Environmental Education, Family Plainting, Global Approach, Higher Education, Human Deschipment, Institutional Materials, Interdisciplinary Approach, *Learning Activities, Lesson Plans, Policy For * mation, *Population | document, *Population Growth, Resource Guides, Secondary Liddea.

Growth, Resource Condes, Secondary Lidica-tion, Social Sojenice, Teashing Techniques. This course builting suggests materials and learning detivities on she interrelated causes and consequences of population growth and other population matters. The document dyserides 15 class sessions which integrate information for sociology, vanificipality, psychology, moling, annual behavior, and coucation Teprics include the history of burnan normalition ercody, evidence, the history of human population growth, evidu-tion, political implications of sofree resources, state, pointed implications to caree resources, immigration, world population growth? family sere, urbanitation, and placifical and published public consideration of United States population policies Leating activities insolve students in rule playing, Rivop discussion, presentation of papers pagning arrow necessing processing pages and reperts to the class, dominiumly surveys, and valless clarification games, for sack topic, affordation is presented on reading and writing a signments, suggested lecture, uppers, descusion, learning activities, films, class sisitors, specialpapers and Projects, and behavioral objectives intended primarily for use on the college level. the entriculum can also be modified for use with advanced secondary school students. A hibingraphy and form requesting teacher feedback con elude the document. (Author/DB)

'SE 024 168 4nd Others,

Interdisciplinary Student/Teacher Materials In Energy, the Environment, and the Economy: 1, How & Bill Becomes a Law to Consecut Energy. Grades 9, 11, 12,

National Science Teachers Association, Washington, DC

Spons Agency - Bureau of Intergovernmental and Institutional Relations (DOE). Washington. D.C. Office of Education, Business and Labor

Affairs. Report No-EDM-1033

Report No-EDM-1033
Pub Date Oct 77
Contract - EX.76-C-10-3841
Note-122p. For related documents, see SE 0.24
167-172 and SE 0.24 21x Not available in hard copy due to marginal legislistic offortiginal document

Available from - CS Department of Energy Technical Information Office PO Bot 62.
Oak Ridge Tennessee 37x30 (no price quoted 1 EDRS Price MF-S0-83 Plus Postage, IIC Not Available from EDRS. DRS Price MF-Sum.

DRS Price MF-Sum.

Available from EDRS.

Available from EDRS.

Environment. Federat

Materials.

Descriptor - *Energy . Environm *Integrated Curriculum Science Education
*Sciencials Education Science Sciences *Secondal Education Second Sciences
*Teaching Guides
This instructional unit for secondary school stu-

dents is designed to integrate facts and cuncepit of energy, environment, and economics into the study of the process of making and applying a law (the lifty-five mile-per-hour speed limit law) The unit contains activities on the legislative process designed to fit into traditional segments of instruction in U.S. history, government, ur elvics enurses. Activities containing learning exerapples are entrapte for science or mathematics are constructed and interbigating draphs and countes. The peticines are intended to encourage interdisciplinary teaching. This unit contains complete teacher and student materials including u pre-text, background reading, tibjective's teaching strategies, and suggestions for evaluation. (BB)

SO 010 867 ED 153 923

int Endependence Cutriculum Ald.
Philadelphia School District. Pa; World Affairs
Council of Philadelphia. Pa.

Council of Philadelphia, Pa.
Pub Date [77]
Note—110p., Pages 19, 74, 75 contain copyrighted material and have been removed by ERIC. They are not included in the pagnation Available from—World Affairs. Council of Philadelphia, John Wanamaker Store, Third Floor Gallery, 13th and Market Streets. Philadelphia, Pennsylvania 19107 (\$3.00, paper cover)

EDRS Price MF-S0.83 Plus Postage, HC Not Avallabte feom EDRS.

Available from EDRS.
Descriptors—Civil Uibertiles, Confiret Resolution.
"Cooperative Planning, Curriculum Guides.
"Depleted Resources, Developed Nations,
Developing Nations, Economic Factors, Food,
"Global Approach, "Human Dignity, International Relations, Learning Activities, Peace,
Physical Environment, Political Influences,
Dovetty Page 500 Secondary, Edwards, Social Poverty Research, Secondary Education, Social Problems, "Social Studies Units, Technological Advancement, Technology, World Affairs, "World Problems

Stressing glinbal interdependence, this guide suggests resources, materials, and activities re lated to major, world problems. Global interde-pendence, in interpreted as connections between and among nations in areas of war and peace. human rights, environmental use, economics, and international tax. The major objective is to help students, understand the international moral. students understand the international moral, publical, economic, and geophysical dimensions of world problems. Following a discussion of the concept of interdependence and a listing of resources, the document presents eight units reresources, we accument presents eight units re-lated to global concerns food and nuttition, global economy, human-rights, occurs, peace, resource scarcity, science, and technology, and in-ternational intitutions. Each unit includes object

tives, background, discussion questions, bibliog raphy, resource materials, audiovisual aids, classroom activities, field trips, and references Learning activities involve students in educational games, group discussion and role playing, reading and writing assignments, oral reports, writing fetters to government agenetes in the United States and abroad, auricying class and community members on topies related to global development, compiling annotated bibliographies, and arranging elass visitations by experts on disarmament, poverty, development, and related topics. The units are designed for use as a complete course, mini-course, or for integration into existing eur-riculum, (Author/DB)

SE 024.442 ED 186 481 Growth: How Much is Too Much? Sludeal Book. Social Studies Module (9th-10th Grade Social Studies)#Revised Edition.

Georgia Univ. Athens. Coll. of Education.
Spons Agency—Office of Education (DHEW).
Washington, D.C.
Bureau No—522AH5121S

Bureau No-522AH5121S
Pub Date 77
Note-125p: For related documents, see SE 024
440.447, portions of or the entite page of
pages 21, 51.53, 55, 61, 74, 79, 90.91, and
102 have been removed due to copyright restrictions; Contains occasional light and broken type EDRS Price MF.SO.83 HC-\$6.01 Plus Postege.

Content. Ecology. Descriptors - Course *Environmental Education. Instructional Materials, Land Usc. *Population Education. Science Education. *Science Education.

Social Sciences, "Wasie Disposal

This learning module is designed to integrate envitonmental education into ninth. and tenth. grade social studies courses. The module and a parallel module designed for chemistry classes were pilot tested in Gwinnett County. Georgia to 1975.76. The module is divided into four parts The first part alerts students to the serious problems that growth and development can bring to the environment and provides an ecological' setting for analyzing alternative solutions. The second part provides -factual information and various perspectives on population growth and the ways in which it has changed the county community in the third part, waste collection and disposal and its relationship to land use planning. community health, and the quality of life are analyzed through a series of readings and activities. The fourth part introduces basic principles of careful land use as a means of preventing enviconmental decay. The module takes eighteen days to complete. Some of the student activities are a study of the population growth of Gwinnett County, field trips to sites of planned land use. and a simulation of a zoning board meeting (BB)

Growth: How Much is Too Much? Teacher's . Guide. Social Studies Module (9th-10th Grade Social Studles).

Social Studies.

Seorgia Univ... Attens Coll of Education

Spons Agency—Office of Education (DHEW).

Washington, D.C.

Bureau No.—522AH51215

Pub Date 77 Note-52p. For related documents, see SE 024 440.447, Pages 13 and 18 removed due to copyright restrictions, Contains marginal-legibility in the Role Descriptions and Maps ice.

EDRS Price MF-\$0.83 HC-S3.50 Plus Postage. Descriptors—Course* Content. Curriculum Guides, Ecology, *Environmental Education. *Land Ute. *Population Education. Science *Land Use. *Population Education, Science Education, *Secondary Education, *Social Sciences, *Teaching Guidet, Waste Disposal This is the teacher's guide for a learning

mis is the teachers guide for a learning module designed to integrate environmental education into ninth, and tenth-grade social studies elasses. This module and a parallel module designed for chemistry classes were pilot tested in Gwinnett County, Georgia in 1975-76. The module is divided into four parts. The first part aicits students to the scrious problems that growth and development can bring to the environment and pruvides an ecological serting for analyzing alternative solutions. The second part provides facto il information and various perspectives on population growth and the ways in which it has changed the county community. In the third part, waste collection and disposal and its relationship to land use planning, community health, and the quality of life are simplyzed through 3 teries of hadings and activities. The fourth part introduces have principles of eareful land use as a means of preventing environmental decay. The teacher's guide gives overall project objectives, the module sequence and supplemental naterials, and suggested short-answer review quizzes (BBI)

ED 156 485 SE 024 446 Water: How Good is Good Enough? Student Book, Social Studies Module 19th-19th Grade

Social Studies).
Georgia Univ., Athens Coll of Education
Spons Agency—Office of Educations (DHEW).
Washington, D.C.
Bureau No...522AH51215
Pub Baie 77

Pub Date 77 Pub Date 77
Note—78p.: For related documents see SE 024
440-447 portions of or the entire page of

440-447, Portions of or the Entire page of pages 18-20, 45-46, and 49 hays been removed due to copyright restrictions Contains occasional light and broken type

EDRS Price MF. 50.83 IIC. \$4.67 Plus Postage.

Descriptors Conservation Education. Course

Content. Environmental Education.

*Instructional Materials: Education, Science

Education, *Secondary Edication, *Social

Setences. Waste Disposage Water Pollution

Control, *Water Resources

Setences. Waste Dispositive Water Pollution Control, Water Resources.

This is an environmental effection module for thingrating topies of water nutrition in ninth, and tenth-grade social studies classes. The module was pilot tested in Gwinnett County, Georgia in 1975-76. The module sequence is divided into four parts. The first part provides an introductory episode to stimulate student interest in an enreproduct to stimulate south interest in an environmental issue concerning water. The second
part is designed to improve understanding of
water sources and treatment. The third part
develops social studies concepts around examples
from the county community. The fourth part has the student apply what he/she has learned to prepare a publicity project. This module is intended to accompany a similar one in ninth- and tenth-grade chemistry classes (BB)

ED 156 486 SE 024 447 Water: Haw Good Is Good Enough? Teacher's Guide, Social Studies Module (9th-10th Grade Social Studies), Georgia Univ., Athens Colf of Education.

pons Agency-Office of Education (DHEW).

Bureau No-522AH51215

Pub Date 77

Note-A0p.; For related documents, see SE 024
440-446; Pages 27-28 missing from document
prior to being shipped to EDRS for filming;
Best Copy Available; Pages 33-34 removed due to copyright restrictions. Contains occasional light and broken type EDRS Price MF-\$0.83 HC-\$2.06 Plus Postage-

Descriptors—Conservation

Curriculum Guides. "Environmental Education. Pollution. Science Education. "Secondary
Education. "Social Sciences" "Teaching Guides, Wasie Disposal, Water Pollution Con-trol, "Water Resources

This teacher's guide is for an environmental education module to integrate topies of water quality in minth- and tenth grade social studies elasses. This module was pilot tested in Gwinnett County, Georgia in 1975-76 Included in the guide are overall objectives, the module sequence. an introduction, a suggested teaching sequence. an introduction, a suggested teaching sequence, a world review game, and review and reading escretics. The module sequence is divided into finit parts. The first part provides an introductory episode to stimulate student interest. to an environmental issue concerning water teeond part is designed to improve understanding of water resources and treatment. The third part of water resources and treatment. The third part develops social studies concepts around examples from the county community, in the fourth part, the student applicate what height has learned to prepare a publicity project. This module is intended to go with a similar one in ninth, and tenih-grade ehemistry classes (BB)

\$0 011 049 Indian River County Environmental Education Instructional Guide, Social Studies, Grade Sine. Florida State Dept of Education, Tallahassee

Pub Date 75
Note—40p. For related do Dorenis, see SO 011
046-048. Not available in hard copy from EDRS due to poor reproducibility of original

Available from -Office of Environmental Educa-tion, Department of Education, Know Building. Tallahassee, Florida 32304 (on Joan)

EDRS, Price MF.50.83 Plus Postage. HC Not Available from EDRS.

Descriptors Biological Sciences. *Concept, Teaching. *Conservation (Environment). Crime, Disease Rale, Ecology, Snvifonment. *Environmental Education, Grade 9, Land Use, *Learning Activities, Natural Resources, Politition. "Population Trends. Secondary Educa-tion. Social Problems. "Social Studies. Teaching Glades. Technology The teaching guide presents social studies ac-livities to help moth graders learn about environ-

mental concepts problems, and responsibilities Based on the Indian River County environment in Florida, it is part of a series for teachers, studeats, and community members. The introduction describes the county's geography, natural resources, endangered wildlife, and local environ. mental issues. The main portion of the guide presents activities based On three major concepts environmental effects of population increase, impact of society's demands on finite fesources, and individual responsibility for protecting the enand disease rates in proportion to population dea-sity, reseated into community are pollution problems, dehate over the benefits of recycling. analysis of families' needs for goods and services which deplete natural resources, and observation of vity council sessions when envitonmental issues are discussed. Appendices present charts and maps of natural resource supply and use, and an nutline of Florida school regulations concerning educational fieldtrips (AV)

ED 161 754

SE 025 244

Gallagher, James Joseph. Ed. Guide for Teaching Regional Environmental Planning, Final Report of Project Inservice Personnel Development: Regional Environmental Planning Workshops for Tri-County Second.

ary School Teachers. dichigan State Univ.. East Lansing. Science and Mathematies Teaching Center.

Spons Agency-Office of Education (DHEW). Washington, D.C.

Pub Date-Sep 78 Grant-OE-G-007701356

Note-58p.: Contains occasional light and broken

EDRS Price MF-\$0.83 HC-\$3.50 Plus Postage. Descriptors-Environmental Education, Environmental Influences. Inservice Teacher Education.
*Instructional Materials. Learning Activities.
Natural Resources. *Regional Planning. Resource
Materials. *Secondary Education. *Teaching Materials.

This guide is designed for teachers, administrators, inservice leaders, and teacher educators. Its purpose is to provide an organizational framework, material, and resources for the development of in-structional plans and strategies for incorporating regional environmental planning to the secondary school curriculum. The guide is divided into three major parts. The first relates the role of regional environmental planning in solving some of today's environmental problems. The second part defines and describes regional environmental planning. It covers transportation, water supply. Pollution control, waste disposal, and material recycling. The third part presents stops in introducing segional environmental planning into the school or community education programs. Infintmation sources, im-plementation Euidelines, and sample activities are included, (Author/MA)

ED 164 417 SO 011 420 The Foure and Population What Will a No-`ED 164 417 Growth Society Be Like? A Teaching Module. Population Reservence Bureau, Inc. Washington,

Pub Date-Dec 78 Note-19p. Map in Figure I may not reproduce clearly due to small print type in original docuAvailable (rom-Population Reference Bureau, Inc., P.O. Box 35012, Washington, D.C. 20036 (\$1.00 each, two of more copies, 50.50 each) EDRS Price MF-50.83 HC-51.67 Plus Postage.

Descriptors-Adult Education, Birth Rate, Educational Objectives, Futures (of Society), Giobal Higher Education. Instructional Materials, Learning Activities, Learning Modules, Newsletters, Panning, *Population Growth, Population

Education. *Population Growth. Population Trends, Secondary Education. *Social Change, Social Indicators. Trend Analysis

This reaching module for high school students and adults examines the future of zero population growth in 2d countries by the year 2000. The module contains an essay for students to read, followed by exercises, activities, and discussion questions based on the essay. Objectives include understanding the components of population. understanding the components of population change, identifying important issues which may ause as societies approach tero population from the and evaluating options involved in planning for the future. The essay explores aspects of future life in the selected countries which will probably reach zero population growth by 2000. These countries all of which are industrialized and tentucity wealthy, include Australia. France, East and West Germany, Japan, the United States, and Russia. It as hypothesized that no-growth society an toese countries will produce the following large numbers of people in the older age groups and a consequent need to plan for pensions, health care, and other services, fewer opportunities for promotions in jobs but more emphasis on equality, and less pressure on energy, housing, transportation, and the environment. Activities based on the essay include a crossword puzzle, small group work, role playing, and opportunities for students to describe their predictions about the future. The module also includes an issue of Interchange, the Population Reference Buread new sletter, which reports on population related matters and describes new reaching tools. (AV)

ED 166 301

UD 019 053

Johnson, Letitia K. Ryan, Michael Ecology in Urban Education.

Spons Agency-Montana State Dept. of Public In-atruction, Helena.

Pub Date—20 May 78 Grant—ESEA-77253202008E(CO)

Note-26p.

EDRS Price MF-50,83 HC-52.06 Plus Postage. Descriptors—"City Demography, Community Characteristics, "Curriculum Guides, "Ecology, "Environmental Education, "Geography Instruction, Secondary Education, Social Studies Units,

*Urban Environment

In this course guide to the teaching of urban ecology, six learning activities on the following topics are outlined: (1) city location and growth; (2) an in-depth study of New Orleans; (3) city shape and structure; (4) size and spacing of cities; (5) cities with special functions; (6) local community study. Educational objectives for each activity are deeducational objectives for each schwirty are de-scribed. Library references, a bibliography, and possible community resources are included. Meth-ods of learning evaluation are described. Emphasis in the curriculum/design is placed of student aware-ness, decision making, and involvement in the local community. (WI)

ED 167 365
Our U.S. Energy Fujure, Teacher Guide, Computer
Technology Program-Environmental Education SE 026 732

Northwest Regions Educational Lab., Portland, Oreg

Spons Agency—National Inst of Education (DHEW), Washington, D C Pub Date—Jan 78

Note—37p., For related documents, see SE 026 733-741, Contains light and broken type particularly in computer printouts

larly in computer printouts
Available from—Office of Marketing, Notthwest
Regional Educational Lab. 710 S.W. Second
Ave. Portland, Oregon 97204 (\$3.75)
Pub Type—Guides—Classroom—Teacher (052)
EDRS Price MF-50,83 IIC-5206 Plus Postage,
Descriptors—"Computer, Assisted Instruction.
"Energy, Energy Consensation, "Environmental

Education. Futures (of Society), Instructional Materials. Policy Formation, "Secondary Education, "Smutation, Social Studies Identifiers- Energy Education

This is the teacher's guide to accompany the stu-dent guide which together comprise one of five computer oriented environmental energy education units. This unit explores the possible effects of the thirteen main emergy-related decisions proposed in President Fords 1975 State of the Union Ad-dress. The computer program at the base of the unit simulates the effects of any combination of the decisions on energy supply and consumption, on domestic production and reserves, and on Pollution. This unit is designed for grades 9 through 12 and can be used in social studies or in environmental science. The teacher's guide presents. (1) unit objectives. (2) background information on the lessons or parts of the unit along with study questions. (3) notes on suiting the unit in class, and (4) program documentation with a sample run. (N(R)

ED 167 366 SE 026 73 Our U.S. Energy Future, Student Guide, Computer Technology Program Environmental Education SE 026 733

Northwest Regional Educational Lab Portland, Oreg.

Oreg.

Spons Agency—National Inst. of Education (DHEW). Washington, D.C.

Pub Date—Oct 77

Note—30p; For related documents, see SE 026
732-741; Contains occasional light and broken

type ·
Available from-

type Available from—Office of Marketing, Northwest Regional Educational Lab., 710 SW Second Ave., Portland, Oregon 97204 (53 25)
Pub Type—Guides - Classroom - Leamer (051) - EDRS Price MF-50.83 HC-52.06 Plus Postage, Descriptors—Administrative Policy, "Computer Assisted Instruction, Decision Making," "Energy, Energy Conservation. Environmental Education. Futures (of Society), Secondary Education, "Simulation, "Social Studies

Identifiers- Energy Education.

This is the student guide in a set of five computeroftented environmental effers; education units. Coments are organized into the following parts or Contents are organized into the following parts or lessons. (1) Introduction to the U.S. Energy Putture; (2) Description of the "FUTURE" programs; (3) Effects of "FUTURE" decisions, and (4) Exercises on the U.S. energy future. This guide supplements a computer aimulation that students can use to study the effects of their energy decisions. (MR)

ED 167 367 The Global Energy Situation on Earth, Teacher Guide. Computer Technology Program Environmental Education Units.

Northwest Regional Educational Lab. Portland, Oreg.

Oreg.
Spons Agency—National Inst of Education (DHEW); Washington, D.C.
Pub Date—Sep 75
Note—49p. For related documents, see SE 026
732-41. Nor available in hard crapy due to marginal legibility of original document
Asattable from—Office of Marketing. Northwest
Regional Educational Lab., 710 S.W. Second
Ave. Portland, Oregon 97204 (\$3.95)
Pub Type—Guides Classroom Teacher (052)
EDRS Price MF-50.83 Plus Postage. HC Not
Available from—ODRS.
Descriptors—"Computet Assisted Instruction.
"Energy. "Environmental Education. "Global
Approach. Higher Education. Instructional
Materials. Secondary Education. Simulation. Social Studies. World Problems cial Studies. World Problems' Identifiers-Energy Education

This is the teacher's guide to accompany the siudent guide which together comprise one of five computer-oriented environmental energy education units. This unit is organized around a computerized data base of information related to global energy use. The data is negatived on a country-bycountry basis for the 63 largest countries in the world For each country data have been stored on 24 variables, such as use and production of energy, per/capita income, energy reserves, and so on. Using the computer program, students are guided through a series of inquiries into the data base. The data base may be expanded by the teacher. These materials are designed for grades 9 through 14 and are appropriate for Social Studies and Environmental Education or Science courses. This teacher's guide presents. 11 an introduction to the unit. (1) background information on the program and how to use it: (3) student exercises; (4) information sources; and (5) program listing (MR)

ERIC

ED 167 371 SE 026 738 Computer Oriented Exercises on Attitudes and U.S. Gasoline Consumption, Attitude. Teacher Guide, Computer Technology Program Environ. mental Education Laits.

Northwest Regional Educational Lab., Portland.

Oreg.
Spons Agency-National Inst. of Education (DHEW). Washington, D.C.
Pub Date—Sep 75

Note—25p.: For related documents, see SE 026 732-741: Not available in hard copy due to mar-

ginal legibility of original document
Available from—Office of Marketing. Northwest
Regional Educational Lab... 710 S.W. Second
Ave., Portland, Oregon 97204 (\$225)

Pub Type-- Guides Classroom · Teacher (052) EDRS Price AIF-50.83 Plus Postage, HC Not Available from EDRS.

Available from EDRS.

Desempiors—"Authodes, "Computer Assisted Ir struction, "Energy Conservation Environmental"

Education, "Fuel Consumption, Higher Education, "Instructional Valenals, Secondary Education," tion, Social Studies, Surveys

this is the teacher's Education

This is the teacher's Education

This is the teacher's Education

one of five
computer-oriented environmental energy education units. This unit is concerned with the attitude of people toward gasoline shortages and different steps the government could take to reduce gasoline consumption. Through the exercises, part of which make use of a computer program, students consider methods of teducing gasoline consumption, explore the attitudes of people toward these methods, learn that People's artitudes differ, and form and express their own attitudes. This unit is appropriate for so-cial studies and environmental education courses grades 9 through 14. This teacher's guide provides a sample run of the computer program and gives suggestions for using the unit in class (MR)

SE 026 739 Computer Oriented Exercises on Attitudes and U.S. Gasoline Consumption, Amunde. Student Guide. Computer Technology Program Environmental Education Units.

Northwest Regional Educational Lab., Portland.

Oreg.
Spons Agency—National Inst. of Education (DHEW), Washington, D.C.
Pub Date—Sep 75

Note-29P: For related documents, see SE 026 732-741: Contains occasional light type

737-741: Contains occasional light type
Available from—Office of Marketing. Northwest
Regional Educational Lab.. 710 S W Second
Ave.. Portland. Oregon 97204 (\$3.25)
Pub T pe— Guides - Classroom - Learner (051)
EDRS Price MF-S0.83 HC-\$2.06 Plus Postage.
Descriptors—*Attitudes. *Computer Assisted Instruction. Energy. *Energy Conservation. Environmental Education. *Fuel Consumption.
Higher Education. *Secondary Education. Simulation, Social Studies

lation, Social Studies ldentiflers- Energy Education

This is the student guide in a set of five computer-oriented environmental energy education units. Contents of this guide present: (1) the three gasoline eonsumption-reducing options for which attitudes are to be explored: (2) exercises; and (3) appendices meluding an energy attitudes survey. (MR)

SE 026 741 A Computer Oriented Problem Solving Unit, Con-sume. Student Guide. Computer Technology Program Environmental Education Units.

Northwest Regional Educational Lab., Portland,

Orteg.
Orteg.
Spons Agency—National Inst. of Education (DHEW), Washington, D.C.
Pub Date—Sep 75
Note—48p.: For telated documents, see SE 026
732.740
732.740
Marketing, Northwest

732.740

Available from—Office of Marketing. Northwest Regional Educational Lab., 710 S.W. Second Ave. Portland. Oregon 97204 (\$3.95)

Pub Type—Guides - Classroom - Learner (051)

EDRS Price MF-80.83 HC-82.06 Plus Portage.

Descriptors—*Computer Assisted Instruction, Ecology, "Energy. "Environmental Education, "Higher Education, Mathematics, Problem Solving, Resource Allocations, "Secondary Education, Social Studies Identifiers—*Energy Education

This is the student guide in a set of five computer-

This is the student guide in a set of five computer-

oriented environmental/energy education units. Contents are organized into the following parts or lessons (1) introduction to power and energy, (2) energy consumption and supply. (3) energy conser-vation and distribution. (4) energy flow and the question of transportation, and (5) computer models and energy. Exercises are given with each part and stidents can solve these problems with a execulator or may use a computer, (MR)

ED 171 597 SO 011 277

Houpt, Arthut . Kane. Thomas T.
The Population Reference Bureau's Population Handbook.

Population Reference Bureau, Inc. Washington. DC

Spons Agency - Ford Foundation, New York, N.Y. Pub Date - 8

Pub Date—8
Note—65p. Photographs may not reproduce clearly in hard copy
Available from—Population Reference Bureau.
1337 Connecticul Avenue Avenue N.W., Washington, D.C. 20036 (\$2.00)
Pub Type—Guides Classroom Learner (051)—
Conday Classroom Teacher (052)—Number

Pub Type— Guides · Classroom · Learner (051) —
Guides · Classroom · Teacher (052) — Numerical Quantitative Data (110)

EDRS Price · MF01 · PC03 Plus Postage.
Descriptors—Butin Rate. Cohort Analysis Death.
 *Demography. Family Planning. *Futures tof Society Global Approach Higher Education. Human Capital. Infant Mortanty Instructional Materials. Migration Patierns. National Demography. *Population Distribution.
 **Population Growth. **Population Trends. Secondary Education. Social Influences. **Trend Analysis. Urbanization

This handbook piters information on population.

Trus handbook offers information on population This handbook offers information on population dynamics. The population data resource is intended for use by journalists, policymakers, teachers, high school and college students fibraries, advertising agencies, and family planning groups. The document is presented in 12 sections. Section 1 introduces demography, explains the purpose and slope of the handbook and details population growth's impact on every facet of life. Section II identifies and describes measures and tools used by demographers to describe measures and tools used by demographers to describe population. Sections III demographers to describe population accurous in through X focus on age and sex composition, fer-thity, mortality, morbidity, nupriality, migration, urbanization and distribution, and population change For each of these topics, the handbook includes background information, a glossary of population and demographic terms; illustrations, maps. graphs, and charts and statistical analysis of se-lected country and state population figures. Section XI provides a glossary of \$13 population terms. The final section offers a directors of population information sources. (DB)

ED 174 484 SE 028 620

Aaron. Cathy And Others
Energy-Intensive Urban Growth and the Quality of Life. Field Test Version.

Far West Lab. for Educational Research and Development. San Francisco. Calif.

Spons Agency-Office of Education (DHEW). Washington, D.C. Office of Environmental Education.

Pub Date-Grant-G007701993

Note -268p. For related documents, see SE 028 618-625. Contains occasional light and broken type and colored pages that may not reproduce well. Page 203 deleted due to poor reproducibility of original

Pub T) pe— Guides · Classroom · Teacher (052)
EDRS Price · MF01/PC11 Plus Postage,
Descriptors—City Planning, "City Problems. "Energy. "Environment. Environmental Education. Policy, "Regional Planning, Secondary Education, "Teacher Education, Urban Studies

Identifiers—"Energy Education
This module seeks to develop teachers, awareness and understanding of the problems of energy-intensive urban growth and its impact on quality-of-life. -It seeks to develop understanding of the etty as a system, understanding of quality-of-life as applied to the urban ecosystem, and skills in studying and planning for quality urban settings. It also seeks to facilitate teacher development of classroom, instructional materials focused on urban growth. (Author/RE)

ED 179 436

witzet. Krnneth A. Mulloy. Poul T. Global Issues: Activities and Resources for the High School Teacher.

Prign School Teacher.

Denver Univ.. Colo. Center for Teaching Internstuous Relations. ERIC Clearinghouse for Social Studies/Social Science Education. Boulder. Colo.. Social Science Education Consortium. Inc.. Boulder, Colo.

pons Agency—National Inst. of Education (DHEW), Washington, D.C. ub Date—79

Pub Date—79 Contract 40 Note-172p.

Available from—Social Science Education Consortium, Inc. 855 Broadway. Boulder. CO 80302 (\$7.95)

Descriptors—Civil Liberties, Conflict, Economic Development, Economics, Educational Objectives, Energy, Environmental Influences, Global Approach, Instructional Materials, Learning Ac-Approach, instructional Statement, Secondary Education,
"Social Studies Units, Teaching Methods," World Affairs, "World Problems

The book is an introduction to teaching about contemporary global concerns in the high school social studies classroom. It contains background and lesson plans for seven units in addition to 39 reproducible student handouts, annotated lists of other good classroom resources, and a guide to sources of teaching materials on global issues. Topics covered include an introduction to the concept of global awareness, world trade and economic in-terdependence, global conflict and the arms race, economic development and foreign aid, environment and technology, energy and natural resources, and human rights. For each unit, two lesson plans are offered, with suggestions for topics and courses, time allotment, instructional objectives, and teaching methods for introducing, developing, and con-cluding the lesson. Student handouts offer materials for the learning activities such as relevant statistics and graphs, attitude tests, news media analysts. ranking nations, scenarios, discussion questions, decision-making and role-playing exercises, and ease studies. Primary and supplementary sources are listed in an annotated bibliography for each unit, including materials auch as books. films, simula-tious, games, pamphlets, and filmstrips. An appea-dix lists publishers of the classroom materials with their addresses. (CK)

ED 179 980

CS 205 330
Keroack Elizabeth Carror Marous. Leah Keaning
Futurism: Framework foe Composition.
Pub Date—060: Paper presented at the Annual Fail
Conference of the New England Association of
Teachers of English (Portsmouth, NH. October
19-21, 1979)
Pub Tores.

19-21, 1929)
Pub Type— Guides · Classroom · Teacher (052) —
Speeches/Meeting Papers (150)
EDRS Price · MF01 / PC01 Plus Postage.
Descriptors— *Compession · Energy). Curriculum Guides. English Curriculum. English Instruction, *English Instruction, *English Instruction, *Futures (of Society). Language Aris.
Science Fiction, Secondary Education, Teaching Guides, Units of Study. *Watting Skills
Norms that the study of the future has been con-

Noting that the study of the future has been ne-glected within the language arts framework, this pa-per proposes a curriculant unit that uses such study as a vehicle to develop composition skills. The paper provides the following information, the general objectives of the unit, evaluation methods, general humanistic themes to be studied; materials; and outlines of eight lessons covering seven change agents of the future, demographic shifts, ecological hifts, cultural diffusion, a was innovation, reenno-logical innovation, cultura, value shifts, and infor-mation/idea ahifts. (FU)

SE 029 403 ED 180 774 Gallogher, James Joseph, Ed. Treagust, David F.

Education of A Supplement to a Guide for Teaching Regional Environmental Planning, Resource Material Development Product: Supplemental Materials for Teaching Regional Environmental Planning in Secondary Schools.

Michigan State Univ. Eavi Lansing, Science and Mathematica Teaching Conternal

Mathematics Teaching Center.

Spons Agency—Office of Education (DHEW).

Washington, D.C.



Pub Date—Jul 79
Grant—G007802612
Note—106p.: For related document, see ED 161
754 Contains occasional light and broken type

porating regional environmental Planning Concepts into existing secondary school curricula. Part I describes the use of an issue-oriented approach to teaching regional Planning. Models for analy ting an issue are presented. Two sample units are included.
Part II presents a seminary of environmental planning legislation on the federal, state, regional, and local level. A detailed list of information sources is provided. Part III contains a discussion and sliustea-tion of the development of an urban study unit as a means of increasing students' sensitivity to various

ED 184 861 Be Elien

SE 030 5-14

Urban Environmental Education Project, Cur-eculum Module III: Lrban Transportation where Are We Going?

aspects of their environment. (Author. RE)

A regions Intermediate Unit. Pittsburgh, Pa-30073 Agency—Office of Education (DHEW), Washington, D.C. Pub Date—Jul 19 Note—75p. For related documents, see SE 030

7. 1-719
Ph. Type—Guides - Classroom - Learnes (051) —
Guides - Classroom - Teacher (052)
EDRS Price* MF01/PC03 Plus Postage.
Descriptors—Buyeling *Class Activities. Energy.
*Energy Conservation Environmental Environmental Education Regional Planning. *Transportation. *Urban Education. Liban Environment

*Urban Planning furnifiers—*Energy Education included in this module are five activities dealing th modes of chansportation in the urban enviconment The activities include (1) a discussion of transportation considerations in urban areas: [2] a stussion of bikeways and their desirability in the urban environment (3) the bikeway and the environment (3) the bikeway (3) the bikew to ment (4) designing a bikeway; and (5) decision-making concerning a bikeway. Also included are an overview, teachet background information, an acticits Preview, and a pretest. A module evaluation form is provided (RE)

SE 030 515

Doron. Ernest B. Erban Environmental Education Project, Cur-riculum Module IV! Community Heeitage and

Alleghens Intermediate Lint. Pittsburgh. Pa Spons Agency—Office of Education (DHEW). Washington, D.C.

Pc5 Date-Jul 79 Note-52p. For telated documents, see SE 030 511-519.

511-519.

Pub Type— Gurdes - Classroom - Learner (051) —
Guides - Classroom - Teacher (052)

EDRS Price - ME01/PC03 Plus Postage.
Descripters— Community Characterismes. Decision Making Environmental Education. Futures (df. Society). History: Interdisciplinary Approach. Local History: Middles Rools. "Secondary Education." Social Studies. "Urban Education. "Liban Environment Included in this module are five activities dealing with shady environ of a community. Institute from with chafacteristics of a community resulting from its past and setting the stage for its future. Activities included are: (1) geographic specification of the alea. (2) statch for monuments. (3) investigation of geneology: 141 examination of traditions and change, and (S) community futures and decision-making. Also included are an oversion, teacher background information, an activity preview, a pret-

ED 184 866 Bell. Ellen

SE 030 519

L'eban Environmental Education Project. Cur-riculum Module VIII: Planning Your Urban Environment. nvironment.

est, and a module evaluation form. IRE)

Allegheny Intermediate Unit. Pittsburgh. Pa Spons Agency - Office of Education (DHEW),

Pub Date-Jul 79 Note-51g: For related documents, see SE 030 511-518.

Pub Type- Guides - Classicoom - Learner (051) -

Pub Type—Guides - Classfoom - Learner (051) — Guides - Classfoom - Teacher (052) EDRS Price - MFOI PCO3 Plus Postage.

Descriptors—"Community Pranning. "Decision Making. Environment. "Environmental Education. Interosciplinary Approach. Middle Schoors Prinning. "Public Policy. Regional Planning. Secondary. Education. "Urban Education. "Liban Planning included in this module are five activities dealing with bilances the urban environment. Arthorists.

with planning the urban environment. Activities ine-coed age. (1) analysis of new town development in the Limited States. (2) analysis of new town develop-ment in foreign countries. (3) discussion of technological advances expected in the next 25 years and their impact on the urban environment of the future. (4) design of a model future urban environment, and (5) evaluation of the student-designed model wiban environment. Also included are an overview. teache: background information, an activity pre-siew, a pretest, and a modute evaluation form (RE)

ED 188 977

SO 012 670

Widuzu, Florence The Person and the Planet: A Problems Course, A

Curriculum Guide.
Planetaey Citizens, New York, NY Pub Date-80

Nations Plaza. New York. NY: 2011 (54:00)
Pub Type—Guides - Class-room - Teacher (052)
EDRS Price - MF0J. PC03 Plus Postage.
Descriptors—Curriculum Guides. *Global Ap-

proach. Higher Education. "Humanistic Education. Human Relations. Individual Development.

Learning Activities. Problem Solving. *Psychology. Religion. Secondary Education. Seif Concept. Self Evaluation (Individuals). Skill Development. Social Action. *Social Studies. velopment. Social Action. "Social Teaching Methods, World Problems

The currectium guide presents five units which explore individual growth and self-assessment and how they are related to the transformation of the world community and a resolution of its problems The one-semester course is designed for senior high school students or college freshmen and sophomores. Objectives emphasize personality and interrelationship improvement through self-transformation, and global awareness and problem solvformation, and global awareness and problem solving through use of imagination, intuition, and logical reasoning and research. The guide is presented in sichapters. Chapter 1 provides the introduction, discussing objectives, prerequisites, skills, teaching methods, and teacher preparation. Chapters II through VI present the five units Lint I. Personal Growth and Human Relations, focuses on self-assessment, human felations problems, and ways to integrate the personality. Unit II, Psychology of the Higher. Constitutions of productions and ways to integrate the personality. Higher Consciousness, emphasizes transpersonal psychology throughla study of the world's religions, ethical values, meditation, and personal growth and change. Lint III. The Pianer and its Problems, suggests 15 global problems and a number of problems solving exercises. Lint IV focuses on sharing the esseatch and problem solving done in the previous point theruph student tracking. unit through student teaching Sections on lesson Planning and evaluation criteria are included. Unit V emphasizes organizing for social action. For each unit, detailed teaching strategies are offered, with a thorough explanation of the exercises. An appendix offers suggestions for expanding the course to two semesters and a bibhography. (CK)

ED 195 396

SE 033 209

Murphy: Elaine M Population and Hawaii: A Case Stud Population Reference Bureau, Inc., Washington,

Pub Date—Nov 80

Note-17p.: Confains shaded graphs which may not

Note—17p.: Confains shaded graphs which may not reproduce well.

Ashiable from—Population: Reference Bureau. 1337 Connecticut Asc.. N.W., Washington, DC 20036 (Si 20 fach, two or more 50.75 each).

Pub Type—Guiltes—Classroom—Learner 1051)

EDRS Price—MF01/PC01 Plus Postage,
Descritors—Class Studies, Demography, Environmental Education, Futures (of Society). *Population Education, *Population Growth, *Population Trends, *Resource Materials, Secondary Education, *Social Studies

Identifiers-Hawan

Presented is background information and activities that deal with human population dynamics. Using Hawaii 25 in example, the unit explores population trends, demographic, concepts, and some societal implications of population growth. Among the related 3cm, i.es provided are a crossword pazgroup problem-sequing experiences. Also included are suggested creative activities, a glossary, and descriptions of reference masenals. (WB)

ED 199 175 Thomas Jake W. SO 013 253

Vaking Changes: A Futures-Oriented Course in In-entire Problem Solving, Lesson Book.

Research for Better Schools, Inc. Philadelphia, Pa.

Spuns Agency—Office of Education (DHEW).

Washington, D.C.

Report No.—ISBN-088280-081.*

Pub Dare—81

iote — 169p

Available from-ETC Publications, P.O. Dreuer 1627-4. Palm Springs. CA 92263 (58 95)
Pub Type— Guides * Classroom - Learner (051)
EDRS Price - MF01 Plus Postage. PC Not Availab ble from EDRS.

Descriptors—"Critical Thinking, "Decision Making Skills, "Futures (of Society), Global Approach, "Learning Activities, "Problem Solving, Secondary, Education Social Studies, Units of Study, World Problem.

This though no though the control of the

This textbook workbook for secondary school students to designed to stimulate inventive problem solving of future world proceeds it is organized into four units and contains 23 except. Unit I defines the nature of the course and movides methods for stating and defining problem brainstorming, working in groups, and judging seems. Unit II discusses methods ods for forecasting the "Liter and determining ac-efferating trends, and food prists solutions. Unit III focuses on analogies as a means to problem solving Lint IV presents a "Future Wheel!" Abieth is a method of fooking for possible consequences and needs that might result from an event or development Each lesson lists or ectives, contains numerous illustrations, and is altiskly offented Students tearn to construct enceklists and matrices for probtem solving. Activities in Jude finding solutions to school vandalism, contro ing forest fires, designing uses for old airplanes, ware line and mattresees, and designing solar and underground housing units and a special willdmill to meet the needs of a farm a special winding to receive the needs of a farm family. The final tessons focus on a class(wide ac-ticity). Project Vista, a planned community for which students design housing and sit on commit-tees for the environment, education, work, and health and welfare. (KC) ED 200 279 JC SIP PL

Ougard Hair A Teacher's Courde To Secting & p.a. Futures Studies Course.

Pob Date +28 Jun 81

Note: 13p. Paper presented at the Educational Mremained for a Charging Society Conference (Mainte FU January 27-30, 1981) Pub. Type — Gealey - Non-Classisson (055)

Speeches Meeting Papers 11501 Materials - Bibonistarries (1911)

EDRS Price - Alf Ol. PColl Pluc Postage.

Description Course Content Course Objectives
*Courses *Futures to belong tests *Protectionality Edination Relevance (Edination) Secondary Education Teaching Methods

Owen the mereased pupular and acade are interest in familiate topics interested instructors should . prepare for teaching to tures studies courses. In de-ing societachers can begin be acquaining themselves with referant inerature and by part cipating if pieceand other organizations devoted to futures topics After this exposure to furnished themes, the instructure can incorporate fully istic so ment unto their curtent courses keeping in rand five general principles. (1) the challenges of the farme are in part determined by present trends, the futures studies medice the ion of sectiation and faller forceasting tools. Lift the compacited challenges of the future require creative problemostiving 141 each indicida if can influence the nature by his her present actions and the in studying the forme the im-

dividual must become sensitized to othere perspecnices and values. Course content should involve a teneral thematic evantination at the secondary level and an examination of forceasting techniques at the posisecondary level. Course objectives should aim at enabling students to become conscious of future problems to think in the future tense, and to plan for and achieve scenarios of the future. These objectrees can be achieved through semmure and simulation exercises and a 56-near hibliography are ineluded) (JP)

ED 200 414 SE 034 457 Pennsylvania's Energy Curriculum for the Second-

ar) Grades: Social Studies.

Pennsylvania State Dept of Education, Harrisburg. Spons Agency—Pennsylvania State Governor's Energy Council, Harrisburg
Pub Date—80

Note-73p. For related documents, see SE 034 450-456

Pub Type - Guides - Classroom - Teacher (053) -Reference Materials (130)

EDRS Price - MF01 PC03 Plus Postage.

Descriptors—Community Author Current Exerts
"Energy, "Environmental Education Global Arproach, Secondary Education "Social Studies
"Technological Advancement Technology Values Clarification

Identifiers—Afternative Energy Sources
The crus of energy-related issues goes beyond technological matters to the political, economical cultural, geographical, and historical aspects of huthan society. Accordingly, this manual presents background information and lessons that are de-signed to help secondary school social studies classes examine several focus of energy problems and solutions. Unit I. Pumping from looks at energy from an historical perspectice in an effort to identify ome causes and effects. The nest unit, Energy Algenatives Today, raises political and economical isoses on the local and national levels. Upit III. A Global Perspective, is devoted to worldwide amplications, white the final section. The Local Community as a Model sims at personal and the action. Numerous maps charts, and diagrains muctrate the written material (Author WB)

SE 035 144 ED 202 717

Fortner, Rosanne Parker Rav Shipping: The World Connection, Student Guide and Teacher Guide, OF VGLS Investigation 12.

and Teacher Guide, OF NGLS Investigation 12. Ohto State Linix. Columbus Research Foundations. Spons Agency—National Oceanic and Atmosphene Administration (DOC), Rockville, Md Pub Date—Dec 80

Grant—NOAA-04-8-M01-170. *NO AA-04-158-44099, NOAA-NA-79AA-D-00120

Note—32p., For related documents, see 5E 035' 140-155 and ED 179 352-358 Prepared in collaboration with the Obto Sea Grant Education Office, 283 Arps Hall, Ohio State Linix., 1945 N. High St. Columbus, OH 43210 (\$1.00 plus \$1.00 per order for shipping) order for shipping)

order for shipping)
Pub Type—Guides: Classroom - Learner (051) —
Guides - Classroom - Teacher (052)
EDRS Price - MF01 PC02 Plus Postage.
Descriptors - Business. — Economics. - Exports.
- Geography. Global Apploach. - International
Relations. Oceanography. Science Education.
- Secondary Education. Social Studies. - Water
Personness.

Resources
Identifiers—Great Lakes, *Oceanic Education Activities Great Lakes Schools, Ohio Sea Grant Pro-

gram. Shipping Industry

This unit investigates through three activities the importance of the Great Lakes in international trade A student workhook and a teaching guide are provided. Included in the teacher's manual are an overview of the unit, a materials list, objectives. teaching suggestions, evaluation tiems, and answer eys to student activities. In the first lesson students identify the imports, exports and countries involved in shipping through the Port of Toledo. Ohio. The other activities consist of constructing a Working model to study how a series of locks operates, and completing a crossword Puzzle of shipping terms (Author, WB)

ED 202 726 SE 035 153 Schlord Keila V Mater. Victor J.

Netro Rein Video, Fictor J.

Shipping on the Great Lakes, Student Guide and Teacher Guide OH Vills Investigation 21.

Ohio State Univ. Columnous Research Poundation.

Spony Agency—National Oceanic and Atmosphene Administration (DOC). Rockville, Md.

Pub Date—Nation (DOC). NOAA-04-158-

Grant—NO AA-G-8-M01-170. NO AA-04-158-44699- NO AA-A-79AA-D-00120
Note—Tip. For related documents, see SE 035
140-155 and ED . 79 352-358. Prepared in collaboration with the Ohio Sea Grant Program. Available from—Onio Sea Grant Education Office.
283 Arps Hall. Ohio State Univ., 1945 N. High
St. Columbus. OH 43210 (51.00 plus \$1.00 per order for shipping).
Pub Type—Guides - Classroom - Learner (051)—

order for shippings.
Pub Type— Guides - Classroom - Learner (051) —
Guides - Classroom - Teacher (052)
EDRS Price - MF01 PC02 Plus Postage.
Descriptors—"Economics Education, Energy Con-

Descriptors—"Economics Education, Energy Conservation, Entronmental Education, "Geography. Map Skills, Mathematics Education, Secondary Education, "Social Studies, "Transportation, "Water Resources Identifiers—Great Lakes, "Oceanic Educational Activities Oteat Lakes Schools, Ohio Sea Grant Program, "Shipping Industry

Presented in this unit are three activities designed to illustrate the importance of the Great Laker in transporting cargo. Students first determine the movement of various materials shipped from selected ports. They then compute from map meastransporting different cargoes via water, rail and truck. Finally, students compare the energy efficiency and environmental implications of these three modes of transport, included are a list of objectives, an answer key, teaching recommendations, and evaluation items. A student workbook is also provided. (Author, W.B.)

ED 202 765 SO 013 376 U.S. Population Data Teaching Package.
Population Reference Bureau, Inc., Weshington,

Pub Date-Mar 81

Pub Date—Mar 81

Note—26p.

Available from—Population Reference Bureau,
Inc. PO Box 55012. Washington, DC 20013

(\$2.00 pet single copy. 2 or more. \$1.75 cach, add

50 50 postage on orders of \$5.00 or less).

Pub Type—Guides - Classroom - Teacher (052) —

Guides - Classroom - Leamer (051) EDRS Price - MF01 Plus Postage, PC Not Availa-

ble from EDRS.

Descriptors—"Census Figures, Charts, Demogra-phy, Map Skills, "Population Education, Popula-tion Growth, Population Trends, Resource Materrals, Secondary Education, Statistical Data This document contains teaching materials on the 1980 census data for use with secondary level studense. The primary objective of the materials is to give students a statistical snapshot of their country as it is today after a decade of change. They will also help students develop skills in analyzing maps and charis. The materials consist of the newsletter interchange "a Linted States Population Data Sheet, and a set of four student information sheets. The new steller contains teacher instructions, a pretestspostlest, and five discussion questions. The newsletter also conteins a few articles on population education. The U.S. Population Data Sheet is a chart of statistics for the nation as a whole and each of the four regions, nine divisions, states, and the District of Columbia. Along with recently released population totals as of Census Day, April 1, 1980 are: comparisons with 1970; projections for 1980. latest birth, death, and infant mortality rates, migration and immigration ligures, per capita income, ra-cial composition; population density, and percent of cial composition; population density, and percent of elderly. The student information sheets consist of an essay describing the major population trends of the 1970s and a map of the U.S. showing percent of population increase or loss for each state. Questions on the map and a set of exercises to help students analyze the statisties on the Data Sheet are included on the student information sheets. (Author, RM)

ED 207 859 SE 035 781 Clark, Richard C., Ed. A Portfolio of Energy Ideast Social Studies.
Minnesota State Dept. of Education, St. Paul. Spons Agency-Minnesota State Dept. of Natural Resources. St. Paul. Environmental Education Board . Minnesota State Energy Agency, St. Paul.

Pub Date-Jan 81 Note-93p: For related document, see SE 035 780. Contains occasional colored pages which may not

reproduce well.
Pub Type— Guides - Classroom - Teacher (052)
EDRS Price - MF01/PC04 Plus Postañe.

Descriptors-Activity Units. Conservation Educa-Descriptors—Activity Units. Conservation Edizea-tion. Elementary Secondary Education. *Energy Energy Conservation. *Environmental Educa-tion. *Social Problema. *Social Studies. *Teach-ing Guides, *Units of Study Identifiers—*Energy Education Presented are 12 social studies, units which exam-ine current energy issues and present energy dilem-mas for eartful study and reflection. The activities emphasise (1) a range of teaching strategies. (2)

emphasite: (1) a range of teaching strategies: (2) problem identification, problem solving, and problem analysis; (3) futures education, (4) students as active learners, and (5) consideration of the thoughts, feelings, and attitudes which the energy aituation evokes. These teacher-oriented materials include an overview of each unit background informetion, teaching strategies, follow-un activities, evaluation questions, resource materials, and other useful information. Students use brain-storming, large and small group discussion; questionnaires, values etantication techniques, and other semilar attategies to examine different energy-related issues. Some of these include hiestyles, social obstacles, laws, media, conservation, energy dependency, alternative energy sources, and regulations. (Au-

ED 212 519 SO 013 809 Global Education, Curriculum Handbook, Social

Livonia Public Schools, Mich. School of Global Education:

Spons Agency-ington, D.C. -Department of Education, Wash-Pub Date—81 Note—47p.; For a related document, see CS 206

Pub Type— Guides - Classroom · Teacher (052) —
Reports · Descriptive (141)
EDRS Price - MF01/PC02 Plus Postage.
Descriptors—Course Descriptions. Educational
Objectives, *Global Approach. *History Instruction. *Humanities Instruction. *Interdisciplinary Approach. Learning Acuvilles, Literature, Resource Materials, Secondary Education, "Social Studies, United States History. World Affairs, World History, World Problems

This handbook outlines three courses with a glo-bal approach which have been implemented in the Livonia Public Schools, Livonia, Michigan Existing global realities—the Browing interdependence of na-tions and peoples, the deplenon of nonrenewable resources, and the ominous world food problem-make it imperative that schools teach global studies. The first course focuses on world history and ex-plores the chronological development of man and civilization from his Primitive beginnings to his pre-scat complex world, with emphasis on global inter-dependence and its many facets. The second course deals with U.S. history, showing the merger of many diverse people and cultures and the resultant change from a traditional society to a modern society. Also, it compares this growth to show our dependence/interdependence politically, economically, and so-cally from/to traditional and modern societies in other parts of the world. The third course examines specific global issues of the teacher's choosing. Each of the three outlines contains a brief description of the course, general objectives, and suggested materials. Unit outlines indicating specific objecmateriais. Unit outlines indicating specific objectives, and sample activities are then provided for each course. The many and varied activities involve students in reading and discussing literature, making outlines, conducting research, listening to guest speakers, taking field trips, constructing maps, writing papers, viewing audiovisuals, and presenting dramas. (Author/RM)

ED 215 863 SE 037 047 Energy Use and the Environment. Concepts & Activities for the Classroom: Secondary Social Studies Module.

Hawaii State Dept. of Education. Honolulus Office of Instructional Services.

Pub Date-Jun 80 Note-255p., Contains colored pages which may not reproduce well.



Pub Type - Guidea - Classroom - Teacher (052) EDRS Price - MF01/PC11 Plus Postage.

Descriptors---*Conservation Education. *Energy, *Energy Conservation, *Environmental Education, Interdisciplinary Approach, *Learning Activities, Secondary Education, *Social Studies, Teaching Guides Identifiers—*Energy Education, Hawaii

As part of a comprehensive, interdisciplinary environmental education program for elementary and secondary education in Hawaii, this teaching guide provides a variety of energy education activities for secondary social studies. An extensive introduction outlines the total program and how it fits into the general, education program. It explains how to use the teaching guide which is organized around 15 the teaching gauge, water is organized around 15 core themes: energy fundamentals, evolution of energy, energy today, conservation, human dimensions, alternatives, storage and transmission systems, environmental and ecological considerations, cost, energy versus population versus food, interdependence, self-aufficiency, appropriate technology, and future perspectives. Background infor-mation is provided for each theme with related objectives and concepts. In addition, a list of activi-ties and vocabulary is given. Some of the suggested activities are presented in an elaborate form indicating subject, grade, themes, objectives, concepts, competencies, other related objectives, materials, and activity with follow-up procedures. A bibliogra-phy concludes the manual. (DC)

ED 216 369 CS 206 897 Swift, Jonathan Global Education: Fantasy, Reality, and the English Class.

Pub Date-Jun 80 Note--22p.

Note—229.

Pub Type— Guides - Classroom - Teacher (052) —

Reports - Descriptive (141)

EDRS Price - MF01/PC01 Plus Postage.

Descriptors—Pcultural Awareness, "Curriculum Development, "English Curriculum, English Instruction, "Global Approach, Integrated Activities, "Integrated Curriculum, "Interdisciplinary.

Assemble Learner Arts Additional Education and Company Approach, Language Arts, Multicultural Educa-

tion, Program Descriptions, Secondary Education Global education aims to increase student awareness of cultural, political, and economic interdependence in the world of the past, present, and future. For a number of reasons, many English teachers regard global education as part of the social studies curriculum. However, global education also should be part of the English curriculum because (1) the field of English is so broad that no attempt to organize or relate the subdisciplines can be without organize of relate the succisciplines can be windout merit; (2) facility in language is fundamental to ev-ery discipline; (3) literature is a reflection of the universal problems, values, and activities of all humankind; (4) the skills of reading, writing, speaking, and listening can be taught in many contexts of usage; (5) the benefits of comparative approaches in literature, humanities, and languages are potentially even greater than hitherty represented (6) divergent points of view can be fostered especially well in the English classroom; and (7) myths, symbols, metaphors, translations; and forms of expression are all culture oriented. A multidisciplinary approach to global education, developed by the Livonia Public School District in Michigan offers students three sequences. The first sequence deals with the deep past from the creation of the cosmos to the middle ages in human history; the second sequence con-cerns the present-the discovery and colonization of the United States in relation to the rest of a developing world; and the third sequence deals with the skills, attitudes, and facts needed to face a fu filled with alternatives. (HOD)

Elementary/Middle/Secondary

SO 000 538

Stegner, Robert W

Characteristics of a Model K-12 Population Edu-

cation Program. Pub Date 24 Nov 70

Note—10p. Paper presented at the College and University Meetings, Nauorial Council for the Social Studies. New York, New York, November 34, 1970; Social Studies. New York November 24, 1970-EDRS Price MF-S0.6S HC-S3.29

Descriptors - "Conceptual Schemes, "Curriculum Descriptors—"Conceptual Schemes, "Curriculum Development, Curriculum Planning, Educational Needs, Elementary Grades, "Environmental Education, "Interdisciplinary Approach, "Problem Solving, Program Descriptions, Secondary Grades, Sex Education Rentifiers—Ecosystem, "Population Education

The population Curriculum Study of the University of Delaware proposes a scillol program to develop a comprehensive knowledge and understanding of man in his environment. The eentral theme of the Population Curriculum stud, is: MAN IS PART OF A NATURAL SYSTEM, AND IS-ULTRIATELY SUBJECT TO THE LIMITS OF THE SYSTEM We are thinking of population education not merely as training to bring about a decline in the population growth rate but rather as the central theme of the entire educational enterprise, encompassing the needs and behavior of man, his population and his environment, and the interactions of these forces. Using this definition, many aspects of population education can already be identified in existing school programs. Existing eutricula have a good deal of content that is related both directly and indirectly to population-environment studies, which can be used without disruption of existing programs. To prepare a population-environment education program under these eiroutlining the concepts needed to understand population-environment problems. The program built on this conceptual scheme should be k-12. multidisciplinary, and problem-solving in approach. Obviously, we earnot solve our population problems in the schools, but the schools can help students to attain concepts of the natural systems, for democratic decisions. (Author/SLD)

ED 080 349

SE 016 525

Hershey, John T. Ed And Others
A Curriculum Activities Guide to Population and Environmental Studies

Project KARE, Blue Bell, Pa Spons Agency—Office of Education (DHEW), Washington, D.C. Office of Environmental Education.

Pub Date 73 Grant-OF G-0-72-5105

Grant—Or. Grant
Note—197p
Available from—Institute for Environmental Education, 8911 Euclid Avenue, Cleveland, Ohio

EDRS Price MF-\$0.65 HC-\$6.58

Descriptors— *Curriculum Guides, Elementar)
Grades, *Environmental Education, Instrue. Grades. Itional Materials. "Learning Activities. Percep-tion. "Population Education "Problem Solving. Secondary Grades Student Research

This book is the second in a series of four books emphasiting student-oriented problem solving retailed to environmental matters. It is divided into three actisity levels awareness, transitional, and acoperational. The activity sequence is designed to motivate students toward a concern for environmental quality take action related to pasticular problems or concerns and provide background for in-depth, un-going problem investigations. Population awareness is developed through study of (1) density, distribution, and diversity, (2) food, clothing, and shelter, and (3) political and social factors Process-skillicomphasize observation, data collection, data recording, and making inferences and predictions based on recorded observations. Fach activity identifies the situation and notes upen ended questions, equipment needed, procedure, pasi

students, limitations and a biography Transi-tional activities focus on text problems of the community and extend those of the first level in each of the three study areas Economic, political, social, scientific, technological, aesthetic, and legal factors are considered. Astivity format is the same Officational activities are an utigenwish of the first two levels. Four approaches to problem solving are presented. They are simulation, contract projects, debating, and modeling situations Related discuments are SE (116 524 and St (116 614 (BL))

ED 106 055 SE 016 960 Our Man-Made Environment, A L'ollèction of Experiences. Resources and Suggested Activities. Group for Environmental Education, Philadelphu. Pa Pub Date Sep 71

Note—59p EORS Price

MF.S0.76 HU-\$3,32 PLUS POSTAGE

Descriptors - Conservation Education, Educaturnal Resources, Flementary Secondary Edutumal Resources, remembers occurring to continue the control of th Guides *Urban Environment

This collection of activaties, experiences, and resources focuses on the man-made environment The activities and resources were compiled to facilitate a program based upon the teachers and student's own living expenences in their own enstronment. The goals of the program are to develop the individual's awareness of his environment and subsequently his understanding of it and to install confidence in his ability to judge the environment, home enabling him to control and change it. An introduction, suggested activities, a collection of teaching experiences, an introducinry list of resources and a recommended library are included. The introduction contains a desempfrom of the program, concepts and implementa-tion strategies. The activities are directed toward the discovery of the world as a purpose environ-ment and include measuring, photography, and discussion. The collection of experiences is ideas and activities which evolved while implementing the program. A har of resources, including audiovisual aids, maps, newspapers, periodicals and books, plus a recommended library, complete the booklet (Author/TK)

ED 114 269

SE 019 346

Enksen. Aase Messina, Judith Learning About the Built Environment.

Educational Facilities Labs., Inc., New York, N.Y.; National Association of Elementary School Principals, Washington, D.C.

Spons Agency-Rockefeller Foundation, New York, N.Y.

Note-88p.: Printed in blue ink, occasional mar-ginal legibility

ginal legibility

Available from—National Association of Elementary School Principals, 1801 North Moore Street, Arlington, Virginia 22209 (\$3.00)

EORS Price MF. SO. 76 Price Postage, HC Not

Available from EDRS.

Descriptors-Curneulum Development, *Elementary Secondary Education, "Environmental Education, Interdisciplinary Approach, "Learning Activities, "Physical Environment, Reference Materials, Resource Materials. Reference Malerials, Resource Malerials. Teaching Guides, *Urban Environment This publication is a catalogue of resources ad-

dressed specifically to school teachers. The esence of the man-made environment is what man builds-extres, streets, houses, parks, and the spaces that connect them. Thus, the focus of the materials in this sourcebook is on what man builds, why he builds, how he builds, and how he and the environment affect one another. Included are interdisciplinary materials for use in both elementary and secondary schools. Section I contains information on reference material for the leacher in developing and conducting a program on the built environment-leacher guides. resource and training centers, and background materials. The second section describes learning resources for use in and out of the elassroom Ineluded are materials that penain specifically to the built environment and other more com-prehensive program which give a thorough treatment of the built environment as an essential component of the total environment. The third section contains descriptions of some cutrent projects on the environment for which no entriculum materials are available but which may provide additional teaching and learning suggestions. (BT.)

ED 119 962 88. SE 020 014 Man's Impact on the Enviconment: The Barrier Beach as an Ecosystem, Lipidate.

Brevard County School Board, Cocoa, Flat Spons Agency-Bureau of Elementary and Secondary Education (DHEW/OE), Washing. ion Ď C Pub Date [75]

Note=134p . For the Pilot Test Edition, see ED 106 076. Related documents are SE 020 015. 017 Photographs and newspaper examples used may reproduce marginally

Available from-The slides described in the abstract are available from ERIC, SAEAC. The Ohio State University, 1700 Chambers Road, 3rd Floor, Columbus Ohio 43212 fon loan) EDRS Price MF-\$0.83 HC-\$7.35 Plus Postage

Descriptors—Confervation Education - Ecology,
Environmental, Education, Instructional
Materials, Learning Activities, Oceanology,
Science Education, Science Materials. *Teaching Guides
Identifiers—Elementary Secondary Education Act *

Tule III. ESEA Tale III

entitionmental education emphasites the cause and effect of change in a barrier beach ecosystem with spesial attention given to man and his fole in environmental change. Concepts are employed from the nurvial and social sciences to investigate undicommental problems. The units are designed around these questions (1) What is an ecosystem ! (2) What is a description of the econotem being investigated. (3) What are some of the biotic and abusic features of the veo-ystem and how do these features interrelates, (4) Where are some specific locations of the econstiem being in-sestigated? (5) What biolic and aboute features in the ecosystem have changed and are undergoing change?, (6) What are the natural factors causing change in the equipostem and how have they been brought about 1, 17) What are the manmade factors causing change in the consistem and how have they been bringht about that What are the results of the changes 1, 191 What, if any, new changes are needed in the ecosystem's and I (ii) How might these needed changes to the ecosystem be brought about? The units are inquiry oriented and contain learning activities, resources, evaluation techniques, and teacher suggestions for implementation of the program. Readings, maps, and other handouts are given for learner use. Slides with descriptions are included. (Author/MRI

ED 119 963 88 SE 020 015 Man's Impact on the Environment: The City as an

Brevard County School Board, Cocoa, Fla Spons Agency-Bureau of Elementary and Secondary Education (DHEW.OE), Washington, D.C. Pub Date 1751

Note 180R, For related documents, see SE 020 014-017 Newspaper examples used may

reproduce marginally EDRS Price MF-\$0.83 HC-\$10.03 Plus Postage Descriptors-Conservation Education, 'Ecology. *Environmental Education *Instructional Materials, Learning Activities, *Population Education, Science Education, Science Materials, *Teaching Guides

Identifiers—Elementary Secondary Education Act Title III, ESEA Tatle III

cavironmental education emphasites the cause and effect of change in a city ecoxystem with special attention given to man and his role in environmental change. Con-



cepts are employed from the natural and social sciences to investigate environmental problems Unit activities are inquiry oriented and answer these questions (1) What is an ecosystem. (2) What is a description of the ecosystem being invastigated?, (9) What are some of the brotte and abiotic features of the ecosystem and how do those features interrelate?, 141 Where are some specific locations of the ecosistem being in. vestigated?. (5) What blotic and abrotic features in the ecosystem have changed and are undergo-ing change?. (6) What are the matural factors causing change in the ecosystem and how have they been changed?, (7) What are the man-made factors causing change in the ecosystem and how have they been brought about', (8) What are the results of the changes', (9) What, if any, new changes are needed in the ecosystem?; and (10) How might these needed changes to the ecosystem be brought shout? Questions 6.8 are answered through population, water supply, and air pollution activities. The teacher's guide also contains resources, evaluation techniques and teacher suggestions for Program implementation Readings, maps, and other hundouts are given for learner use. (Author/MR)

ED 120 054

SO 008 956

Woite, Robert, Ed World Hungar Crisis Kit. Hope for the Hungry. World Without War Publications, Chicago, Ill Pub Date Nov 75

Note—81p: Some pages of the original document are copyrighted articles and therefore not available. They are not included in the pagina-

Available from-World Without War Publica. tions, 110 South Dearborn, Chicago, Illinois 60603 (\$1.50, 40 percent discount for ,10 or more)

Price MF-\$0.83 Plus Postage, HC Not **EDRS** Available from EDRS.

Descriptors - Developing Nations, Economic Dis-advantagement, Elementary Secondary Education, "Food, "Global Approach, "Hunger, Instructional Materials, Resource Materials, So-cial Studies, "World Problems

This booklet introduces the problem of world hunger and provides information, facts, and perspectives about the erisis. Section one presents the feader with the basic facts of the hunger ensis through a self-survey, a statssheal study of the developed Oil Producing Esport Countries (OPEC), and a one-page indication of what one would have to give up to move from an American suburb to the fourth world. Section two gives contending perspectives on the problem. These selections help the reader understand the current argument for and against action, while section four presents a wide range of substantive and specific legislative proposals now being considered as aids in resolving the erisis. The kit concludes with a number of resources which can help individuals, organizations, or classes become more aware of this global problem (Author/DE)

SO 010:184 ED 142 481 Education for a Global Society: A Resource Manual for Secondary Education Teachers.

Jane Addams Peacy Association, Philadelphia. Pa. Women's International Lyaguv for Pvace, and Freedom, Philadelphia, Pa

Note—\$3p; Not available in hard copy due to marginal legibility of original

marginal tegionity of original Available from—Jane Addams Peace Association, 1213 Race Street, Philadelphia, Pennsylvania 19107 (\$2.50 paper cover) EDRS Price MF-50.83 Plus Postage, HC Not

Available from EINS.

Descriptors—Bibliographies. Ecological Factors.

*Environmental Education, Films. *Global Approach, Human Geography, Human Relations, International Education, *Peace, *Resource Guides, Secondary Education, *Social **Problem**

Over four hundred books, arneles, and resource materials on the topic of global geducation are identified in this resource manual It is designed for secondary school teachers to use in selecting reading and audiosisual resources to aupplement courses with a global approach Ap-proaimately 911% of the entries have been published since 1970 statemal is arranged under four main headings called "world order values," which are seen to be the anotheses of major problems which bring stress, conflict, and human fullering to the world society. The four world order values are peace, economic equity, social justice and ecological balance. Within each of the four content sections, entities are further characterized as books, articles, or resource materials. Most of the resource materials are films, which include information about length and color or black white. Entries are listed alphabetically by suchor Additional hibliographic informa-tion is given on title, publisher and dare. The guide concludes with additional issue of 40 related tesource manuals and hibliographies, 67 periodieals which provide information on education for global interdependence. 102 agencies involved in concerns of peace and justice, and publishers' addresses for entires in the main section (AV)

95 . SO 010 422 ED 155 069 Your State in the World. Experimental Edition. Social Studies Development Center, Bloomington.

Spons Agency—Council of Chief State School Officers, Washington, D.C., Office of Education (DREW), Washington, D.C.

Pub Date [76] Note = 167p, Pages 61, 63, 77, 84-5, 108, 137-8, 149-204 of the original document are copyrighted and therefore not available. They are not included in the pagination. Not available in hard copy from EDRS due to variety in type size and ink density of original document EDRS Price MF-\$0,83 Plus Postage. HC Not

Available from EDRS.

Descriptors—Business, Community Involvement, *Community Role, *Cultoral Awareness, Cur-reculum Development, Economic Factors, Elementary Secondary Education. Ethnicity.
*Global Approach. Instructional Materials. *Global Approach. Instructional **
Learning Activities. Map Skills. Relationship. Skill Development. *Social Studies. Student Participation. Teaching Methods. **Units of

Study. World Affairs

The goals of the 30 activities in this booklet are to help students become aware and to undetstand the increasing interdependence of na-tions in modern spetety. Three introductory seetions explain how the pamphtet can be used by department chairpersons and by state education department personnel, as well as by social studies teachers. For example, department chairpersons might use the activities as in-service training units for teachers. Each activity is self-contained, with objectives, materials, and suggested teaching procedures. They represent a range of levels of difficulty and topics. Students are involved in identifying imported household products, ethnic restaurants in their own town, local business firms involved in foreign trade, and international links of local eivie, religious, and service organizations In other activities, students interview foreign exchange students and immigrants. Several activities explore international problems such as unequal production and consumption of economie products such as coffee and oil Most of the activities encourage development of stu-dent skills in research, map reading, language arts, and interpreting data. Concluding sections explain how to develop additional activities and list sources of information, materials, and services (AVI

ED 156 593 Lawa Kevin

SO 011 001 -

Changing Land Use: Peachirer Street, Atlanta, A
Case Study in Sequent Occupance [And] Student Work Book.

Georgia Univ., Athens. Geography Curriculum Project.

Pub Date Jan 78 -157p., For related documents, see SO 011

002-003. Figures 10, 12, 17-40 (many photo-graphs) may not reproduce clearly in hard

Available from—Geography Curriculum Project. 107 Dudley Halt, University of Georgia. Athens. Georgia 30602 (\$3.00 sci. paper eovers. 15% discount 20 tets or more) EDRS Price MF-\$0.83 (IC-\$8.69 Plus Postage.

EDRS Price MF-30.83 (1C-30.09 r) Descriptors—Case Studies, Change Strategies, (Thought Transfer). **Community Change, Economie Education, Elementary Secondary Education, Geographic Concepts, Geography, **Geography Instruction, History Instruction, Human Geography, Instructional Materials, Land Scillement, *Land Use, *Local History, Population Trends, Social Change. "Social History. Social Structure, "Social Studies Units. Technology. Transporta-tion, Trend Analysis. United States History

Idennifers-Georgia (Atlanta)

A social studies unit and student workhook esplore the historical geography of the area of Peachtree Sirect in Atlanta, Georgia The unit deals with sequent occupance, a type of historical geography in which students study the same area. the changes in culture, and the changing land use in the area during certain time periods. For each period. students examine developments in technology, social organization, economy, population, settlement pattern, and transportation and communications. Chapter I explores Indian pre-history and early history in the Atlanta area. During this period, nomadic hunting of large animals gave way to settled cultivation of crops and huntsine of local small game. Chapter II characterizea Indian life prior to European contact as metuding cultivation of corn and alteration of the physical environment by fire to espand villages and fields. Chapter III shows how contact with Europeans led the indians to become dependent upon trade with white men and to ignore erop cultivation. Chapter IV explores proneer white settlement from 1821-1860. The first settlers in the Atlanta area lived by subsistence farming The area grew quickly once a railroad terminus was established there. Chapter V reviews growth of the Peachtree Street area from 1860-1920 The period saw industrial growth, destruction during the Civil War. and reconstruction into a commercial and re-sidential street. Chapter VI esplains how stores. offices, and apariments took over Peachtree Street during 1920-1977 The student workbook contains activities and questions to enhance stu. dent comprehension of each chapter (AV)

ED 156 594

Lawr, Kevin Changing Land Use: The Fens of England. A Case In Land Reclamation [And] Studens Study Work Book.

Georgia Univ. Athens Geography Curriculum, Project.

Pub Date Apr 78 Note—131p. For telated documents, see SO 011 001-003. Picture following title, page and figures 1, 2, 6-15, 18, 20, 22-23 (some photographs) may not reproduce elearly in hard

Available from Geography Curuculum Project. 107 Dudley Hall, University of Georgia. Athens. Georgia 30602 (\$3.00 set. paper cover, 15% discount 20 sets of more)

EDRS Price MF-\$0.83 HC-\$7.35 Plus Postage. Descriptors - *Agriculture, Area Studies, Case Studies, *Change Strategies, Conservation (Environment), Economic Education, Elementary Secondary Education, Fuerign Countries, Geographic Concepts, Geography, *Geography Instruction, Instructional Maierials, Land Settlement, 'Land Use, Local History, 'Physical Environment, Population Trends, 'Social Studies Units, Soil Science, Technology, Transportation, Linited States His-

tory, Water Resources

Identifiers—* England

A social studies unit and student workbook explore changes in land use that have occurred in the Fenlands of England since the time it was first inhabited. Fens are lowlying land which is partially or completely covered with water. The English Fens are located on the eastern side of the British Isles and cover a total area of about 2,000 square miles. Chapter I reviews the nature and uses of the Fens during pre-Medieval times, from the Stone Age through Roman conquest and Danish invasions. During this time, land use to the Fens changed from infrequent visits by people to gather fuel and to catch fish and birds, to a settled existence combining cotivation and graz-ing Chapter II explains that during the Middle Ages, monastenes controlled and use of the Fens. and the economy was based upon native producta (peat and reeds) and agricultural products. Some reclamation and drainage was carried out, financed by the monasteries Chapter III shows how large seale reclamation was undertaken from 1700-1850 Drainage and subsequent lowering of the land surface resulted in flooding problems, which pumping technology pirtially solved. Chapter IV examines modern times in which the Fens have become one of the richest farming

areas in England with a highly developed transport system for moving produce. The student corkbook contains activities and questions to enhance student comprehension of each, chapter.

ED 136 595

SO 011 003

Laws, Ayven Changing Land Use: The Back Lachlan District of Australia, A Case Study of Land Use in a Scmi-Arid Area [And] Student Work Book. Georgia Univ. Athens Geography Curriculum

Pub Date May 78
Note—134p: For related documents, see SO 011
001.002: Figures 1-4, 6-8, 14-16, 18-20, 22 (some photographs) may not reproduce clearly

in hard copy
Available from — Geography Curriculum Protect.
107 Dudley Hall. University of Georgia.
Athens. Georgia 30602 (53.00 set. gaper cover. 15% discount 20 sets or more)
EDRS Price MF-\$0.83 HC-\$7.35 Plus Postage.

Descriptors - Animal Science, Area Studies, Case
Studies, *Change Agents, Chimane Factors,
Conservation (Environment), Economic Educa-Conservation (Environment). Economic Educa-tion, Elementary Secondary Education, Foreign * Countries, Geographic Concepts. Geography. *Geography Instruction, History Instruction, in-structional Materials, Land Settlement. *Land Use, Livestock, Local History. *Physical En-vironment. Population Trends. *Social Studies Units. Technology. Transportation. Water Resources. Resources
Identifiers— *Australia

A social studies unit and student workbook explore changed in land use that have occurred over time in a semiarid area of eastern Australia. the Back Lachlan District Part of the "ourback." the District consists of a huge level plain with low rainfall, only one river, and vegetatron ranging from timber to grass and shrub Chapter lebaberates on its physical characteristics. Chapter Il captains that it was inhabitated by Aborigines from 30 000 years ago until the 19th century ney roamed in small nomadic groups, looking for edible plants and animals, camping near water. They had a Stone Age technology. Chapter III characterizes the white pioneer graz. ing stage from 1820-1866 as a period of mereasing cattle grazing. Graziers moved eartle into the District from notifiern ofeeding areas to use it as a fattening area before the stock was driven south ro market. Chapter IV relates a stage of derenorating environmental conditions from 1866-1900 due to overgrazing sheep raising replaced eatile grazing, espensive technological appasatus were required, operating costs increased, rabbits overran the land, and the human population decreased Chapter describes 20th century subdivision of the sheep-raising properties into smaller single-family farms. The government has introduced controlled stocking policies to prevent further environmental determination. The student workbook contains activities and questions to enhance sludent comprehension of each chapter.

ED 159 106 SO 011 Glob Education Guidelines. Michigan State Dept of Education, Lansing. Pub Date [77] SO 011 119

ote-75p. Not available in hard copy from EDRS due to poor reproducibility of original document

EDRS Price MF.\$0.83 Plus Postage. HC Not Available from EDRS.

Descriptors - Annotated Bibliographies, Classroom Materials, *Currentum Development, Definitions, Elementary Secondary Education, *Global Approach, *Guidelines, Interdisciplina. ry Approach, Objectives, Resource Materials, World Affairs, World Printiems
This publication provides guidelines to help school districts in Michigan initiate or strengthen

global education programs. A definition of and rationale for global education are included in-part

Global education is defined as a lifelong growth in understanding, through study and par-ticipation. of the world community and the interdependency of its penple and centogroat, social, community and the inter-dependency of its penple and centogroat, social, commer, and technological systems. Party2 lists the goals of a global education programa. An in-terdisciplinary approach to highly encouraged. A brief discussion of implementation, with an emphasis on school community interaction, is in Part 3, Part 4 cuntains criteria for program development. The last part*comains a bibliography of global education resources. The bibliography, which comprises about half of the publication, exces teacher resource material, and print and non-print majerials for classroom use at all levels (Author/RM).

ED 160 528 SO 011 218 Fowler, Kotheyn Mersine

Population Growth: The Human Dilemma, An

NSTA Encironmental Materials Guide, National Science Teachers Association, Washing-

Spons Agency—Office of Education (DHEW). Washington, D.C.
Pub Date—77

Available from—National Science Teachers Association, 1742 Connecticut Avenue, N.W., Washington, D.C. 20009 (\$3.30 paper copy) EDRS Price MF-50.83 Plus Postage. HC Not

Available from EDRS.
Descriptors—*Annotated Bibliographies Bitth Rate Elementary Secondary Education *Efficientemental Education. Films, Futures (of Society). Giobal Approach. Immigrants Instructional Vaterials Vigration. Policy. *Population Education *Population Growth Reading Materials. Resource Guides. Teacher Education. Urbanization. World Problems

This annotated bibliography lists more than 100 books about population growth. The books are intended for students in kindergarten through grade 12 and their teachers. The books were selected on the basis of their appropriateness to the interests of tre pasts of their appropriateness of the interests of realisation reachers and students, and on the basis of readability and accuracy. Viest were published during the late 1960s or 1970s. Parts I and II present resources for reachers and high school students, respectively. Entries are grouped in the following caregomes basic general references, world population, population of the United States, people on the more (urbanization, migration, immigration), fertility control consequences of population from the tility control consequences of population from th. tinty control consequences of population growth ressus no growth, and population policies strategies for the future. Parts III-V present resources for Jumor high, grades three through six, and kindergarten through grade four. All entires give infognation on trile, author or editor, publisher, date irrigith and price. Annotations are detailed and lengthy. Three appendices offer additional information about filter extravelles and or formation about films, curriculum materials, and or-ganizational sources of information and materials related to the population issue (AV)

ED 162 885 SE 025 387 Environmental Education: Food - The Coming Crisis (Grades K-12).

New Jersey Education Association. Trenton.. New Jersey State Council for Environmental Educa-tion. Upper Minitelair.

Note-91p

EDRS Price MF-\$0.83 HC-\$4.67 Plus Postage.

EDRS Price MF-80.83 HC-84.67 Plus Postage.
Descriptors—*Activity Units Ecology, Beonomies.
*Elementary Secondary Education, Energy, *Environmental Education, *Food, Interdisciplinary Approach, Land Use, Objectives, Resource Allocations, Units of Study, *World Problems
This publication presents classroom activities for teaching about the world food shorrage. These ac-

training about the world food shortage. Priese activities are organized by objectives, are multidisciplinary and cover the K-12 grade levels. The objectives listed include 11) Describe some food chains. (2) Appraise the effect of soil conditions. chains. (c) Appearse the effect of soil conditions, geographic and climatic factors on the food industry. (3) Describe the role of transportation in the distribution of food, (4) Explain the relationship between food and population, (5) Relate food production and processing to energy use, (6) Suggest some solutions to allevrate world hunger. (7) Analyze the relationship between food and economics. (8) Investigate the polytical sevents of food distribution. (9) relationship between food and economics. (8) ince-tigates the political aspects of food distribution. (9) Analyse the relationshim between agriculture and land use, and (10) ldc by factors causing world-wide concern about food. The activities are organ-ized under each objective by problem area, grade level, and subject or course of study. This publica-tion is a part of the "Environment and Quality of Life" series of Computer Based Resource Units that have been developed under the Elementary and Sehave been developed under the Elementary and Secondary Education Act. Title III. (MR)

ED 1624886 SE 025 3901 An Educator's Introduction to Energy Concepts;
Overview Packets.

Maine Audubon Society/Falmouth
Spons Agency-Office of Education (DHEW). Spons Agency—Offi Washington, D.C. Pub Date—Nov 77 Grant—G007602036

rote—68p: Pages 9, 10 of "Consumption Lifes-tyles" section removed due to copyright reside-tions. Not available in hard copy due to marginal legibility of ongunal document
EDRS Price MF-50.83 Plus Postage, HC Not
Assilable from EDRS.

Descriptors-Conservation (Environment). *Energy Conservation. *Environmental Education, information Sources, Instructional Materials. Natural Resources, Physics. Social Studies. *Sociocultural Patterns. *Teaching Gurdes Identifiers—*Energy Education

This publication provides a broad overview of es ergy and related issues for teachers and others who want to improve their understanding of these issues want to improve their understanding of these issues included in this publication are discussions of (1) elementary physics related to energy. (2) energy sources, including topics such as renewable and non-renewable resources and fossil fuels. (3) energy uses in the U.S. (4) thermodynamics, (5) space heating, (6) energy conservation; and (7) socioeconomic aspects of the energy crisis. The last section entitled Consumption. Life Style is designed for social science teachers and discusses the effects of population increases on natural resources and social values. Diagrams and tables are provided to illusrate. among other things (1) energy consumption rates of various electric appliances. (2) energy uses by economic sector. (3) U.S. energy flow from source to work and waste, and (4) the flow of energy to and from earth (MR)

ED 183 456 SO 012 382

Mthlinger. Howard D. And Others Global Studies for American Schools.

National Education Association, Washington, D.C. Spons Agency—Indiana L.m.v., Bloomington, Social Studies Development Center.; Office of Educa-tion (DHEW), Washington, D.C.

Pub Date-80 Note-85p.

Available from-National Education Association, 1201 16th Street, N.W., Washington, DC 20036

Pub Type— Guides - Classroom - Teacher (052) EDRS Price - MF01 Plus Postage. PC Not Asailable from EDRS.

ble from EDRS.
Descriptors—Civil Liberties, *Cultural Awareness,
Curreulum Evaluation. Discussion (Teaching
Technique). Educational Objectives. Educational
Resources: Elementary Secondary Education,
Energy, Environment. Evaluation. *Global Approach, Industrialization. *Learning Activities.
*Lesson Plans, Life Style, Role Playing, Teaching
Guides, Teaching Techniques, Verbal Communication, *World Problems
The book provides a resonate for teaching slobal

The book provides a rationale for reaching global studies, offers six model lessons, suggests how teachers can assess their own global studies pro-grams, and cites additional resources for g'chal studies. It is presented in four chapters. Chapter I states the entionale as the need to develop a global per-apective in order to understand and function effectively in the world roday. Schools have the primary responsibility for this development. Chapter II offers six lessons, which are designed for junior high school students but can be adapted for elementary or secondary students. Topics cover the relationship between human society and the natural environ-ment, communication, benefits and problems of in-dustrialization, energy, differing cultural litestyles. and human rights. Each lesson requires one to two or more class periods and includes an introduction. objectives, suggested procedures, and student materials. Techniques melude reading, discussion. tole play, research, simulation, debate, and gaming Chapter III discusses program evaluation and pro-vides a checklist. It also discusses student evaluation, offering suggestions for establishing objectives in four areas, knowledge, abilities, valuing, and so-cial participation. The final vilapter lists selected resources for global studies, or ng general publications, organizations, catalogs, guides, and directones. It provides checklists for helping teachers to identify possible resources in their own community and to evaluate materials for classroom use.

ED 187 606 S Patron, William E. Usilen William W SO 012 453

Dealing with Environmental Issues: The Use of Simulation. Environmental Education Occa-sional Paper No. 5.

Ohio State Dept of Education, Columbus Office of Environmental Education, Pub Date—\$5ep 79, Note—28p*

Pub Type— Guides · Classroom · Teacher (052) — Opinion Papers (120)

Opinion Papers (120)
EDRS Price - MF01/PC02 Plus Postage.
Descriptors—Cuzenship Education. "Critical
Thinking." Decision Making. Education. "Encironmental " Education. "Problem Solving.
"Simulation. Social Action." Social Problems. Social Studies. Teaching Methods
The paper provides a rathonale for using a decision-making model in feaching environmental is-

sion-making model in teaching environmerial issues, outlines specific steps in treating a simulation. and silustrates its use in the classroom. The corecnices of environmental education are to provide learning opportunities for students to know. Inink. choose, and are regarding persasive social issues from local to global levels. The primary goal of socist simulations is to involve students in approximations of real-life, entironmental issues, lessily. simulations will encourage students to become simulations will encourage students to out the activities where mention in mase political, social, and personal decisions. Procedures for a decision-making model include racquiriying a problem, defining the desired solution, identifying alternatives for accomplishing the desired solition. comes, and soleening the best a-ternative. The h. po-thetical classroom situation which concludes the document incolves applying decisionsmaking procedures to the problem of storage of toxic enemicals near a school playground. (Author CK)

LD 021 105 ED 193 410 Garbarino, James Plantz, Margaret C.

Urban Environments and Urban Children. ERIC Clearinghouse on Liban Education. New

Spons Agency - National Inst. of Education (ED)
Washington D.C.

Pub Date -Aug 80 Contract -400-77-00*1

Sote + 54p. Published in a slightly different version as ERIC CLE Liban Diversity Series: Number 69. Angust 1980

69. Angast 1980

Available from—Institute for Urban and Minority Education. Box 40 Teachers Cottege Columbia Linvegaty. New York. NY 10027:[\$5:00]

Pub Type—Information Analyses 1070) — Reports - General (140) — information Analyses - ERIC Information Analyses - Products 1071)

EDRS Price - MF03 PC03 Plns Postage.

Descriptors—Child Development. "Children-Elementary Secondary, Education. "Environmental Influences. "Family Role. "Neighborhoods. School Community Relationship. School Role. Socialization. Liban Areas. "Urban Environment. Urban Schools

Urban Schools
Identifiers—Bronfenbrenner (Urie)
This paper focuses on the distinctive characteris-This paper focuses on the distinctive characteristics of urban environments, the ways these environmental features affect only children, and the roles that schools can play in modifying these effects. Bronfenbrenner's multilevel framework for studying the evology of human development is described Recogniting the central role that families play in the lives of children, neighborhoods are evamined as important environments for joth families and their children. Unique characteristics of urban environments and the expectal ways in which their multiple levels and interacting systems pose tisks and opportlevels and interacting systems pose risks and opportunities for child development are then discussed. New York, NY 10027 Data from a study on peo-ple's perceptions of high risk versus fluw risk. utban neighborhoods are reviewed, showing that despite demographic similarities, the high and low risk neighbothoods caried significantly in terms of subjust stresses and supports adequacy of hild care, and residents attitudes toward the neighborhood finally the school is hailed as an insurupon that. with proper moral, pointed as an institution that, with proper moral, pointed, and economic resources can brote; tentitamentally at-risk children increase their opportunities, compensate for weaknesses in families and neighborhoods, and influence public policy related to children. (April 1988) that GC)

SO 013 037 ED 198 017 Population Education in Geography: Some Sample Eessons.

United Nations Educational, Scientific, and Cul-tural Organization, Bangkok (Thailand), Regional Office for Education in Asia and Oceania.

Note-29p.: For a related document, see SO 013

Pub Type— Guides: Classifom · Teacher (052) EDRS Price · MF01 Plus Postage. PC Not Availa-ble from EDRS.

Descriptors-Comparative Education, Demography. Elementary Secondary Education, Demogra-phy. Elementary Secondary Education, Foreign Countries. "Geography. "Population Education, Teaching Guides Units of Study Identifiers.—"Asia. "Oceania

This booklet contains sample lessons and learning materials from the countries of Asia and Oceania for materials from the countries of Asia and Oceania for teaching population education in geography courses. The booklet is one of a senes of six, each of which brings out population education concepts as part of a particular subject area. The subject areas treated in the other booklets are home economics, health, social studies, science, and math. The purpose of the series is to provide teachers, curriculum developers, and educators with useful tools for dis-seminating population education concepts in the senool setting. The population programs in this booklet on geography are mainly from Indonesia, India, Malaysia, Pakistan, Philippines, Republic of Korea, Sri Lanka, Thailand, Fiji, and Papua New Grines. In all these countries, population education concepts are integrated into various subject areas which are being taught in primary and secondary schools. There are two major parts to the bookiet. The first part contains a scope and sequence chart of population education concepts consolidated from charts of the various countries. The chart indicates concepts, sub-concepts, objectives, and grade levels. The second part of the booklet contains illustrative samples of geography lessons. The population sengrapher is concerned with three areas (1) simple dedesignation of the location of population members and characteristics. (2) the explanation of the spatial configurations of these numbers and characteristics. configurations of these numbers and characteristics, and (3) the geographic analysis of population phenomena or interrelations among areal differences in population. Sample lessons melade the fillowing exercises. In one exercise entitled "A Model of the School," students make a model of the school building in straw or eardboard. In another exercise. "School History." students research the history of their school and record the information on a diagram with a time line. In arbital exercise, students gram with a time line. In a ghird exercise, students examine the effects of spatial distribution and interaction on housing needs of people. (Author/RM)

Population Education in Social Studies: Some Sample Lessons.

United Nation's Educational, Scientific, and Cultural Organization, Bangkok (Thatland), Regional Office for Education in Asia and Oceania.

ble from EDRS.
Descriptors—Comparative Education, Demography. Elementary Secondary Education, Foreign Countries, Migration Patterns, "Population Edu-sation, "Social Studies, Teaching Guides, Units of Srudy Identifiers—* Asia. *Oceania

1.7,

This booklet contains sample lessons and learning marerials from the countries of Asia and Oceania for teaching population education in social studies. The booklet is one of a series of six, each of which brings out population education concepts as part of a particular subject area. The subject areas treated in the other broklets are home economies, health, geography, science, and math. The purpose of the series, is to provide teachers, entriculum developers, and educators with useful tools for disseminating population education concepts in the school setting. The population programs in this bookiet on secial studies are mainly from Indonesia. India, Malayaia, Pakusian. Pfilippines, the Republic of Korea. Sn Lauka, Thailand, Fili, and Papua New Guinea. In all these countries population education concepts are integrated 1950 various subject areas which are being surface. tought in Primary and secondary schools. There are

two major parts to the booklet. The first part conlains a scope and sequence chart of population eduvarious countries The chartageticates concepts, sub-concepts, objectives, and arade levels. The second part of the bookles consists attack as amples of social studies lessons. Population is one of the major problems on which social singles focuses. Issues examined include changes in the size of population; the character and structure of the population by sex. ethnicity, occupation, and class, movements of population within countries, urbantation; family structure, the status of women, and the relationship of population to the economy, to government policy, to the distribution of roll, as power to affect the size and distribution of r. oniation. These issues are treated in the curricu. -- through a problemoriented approach—the disc. sons and solutions of which are dealt with through the use of values clarification method. (Author, R.M)

ĘD 200 418 SE 034 542 Comm. E. J. h. v. Comp. And Others Fairy Tales of the Sea [and] A Guide for Teachers.

Party Fales of the See Janoy A Ginde are reachers.
Texas A and M Unix College Station Sea Grant
Coll Program
See Age by National Oleans, and Atmospheric Admir stration (DOC) Rockeille, Md National Sea Grant Program

Render No. T.VIL -SG-81-402, TAVIL -SG-81

Pub Date = Feb 81

Note: 16 p

Anathic from: Matthe Information Service Sch
Giant College Program Taxas A&M Unix. College Sch College School TX 1831 (5) 46 for student guide and 52 00 for machines guide bulk price on re-

Guides - Classroum - Learner (051) Guides - Classroum - Teacher 1955 r DRS Price - VII 01 Plus Postare, PC Not 5 sailable from LDR>

ore from SURN
Secrificate Base Skills. Elementary Secondary
Education. English Instruction. Environmental
Education. Folk Culture. "Language Arts. "Legends: Literature. "Viatine Busings: Visitology."
Oceanography
Presented are 25 fairs tales from around the world
has are related to the see. Included to the world

that are related to the sea. Included in the reacher's guide are activities designed to serve as a catalyst to stimulate varied classroom uses for the tales. The correction matter provided tolorus the English Language Arts Curriculum Etamowerk suggested by the Texas Education Agency and society spooking, listoning reading, and writing Among the recommended activities are astening to confirm predictions. Playing a story, understanding literal and lightalive language, and creating written inter-views with story characters. (Author WB)

SO 013 308 ED 201 561 Klenzman, Elizabeth Toxior Paula Cresting Futures Activity Cards and Teacher

Minneapolis Public Schools, Minn.
Spons Agency—Minnesota Council on Quality
Education, St. Paul. Pub Date

Note—244p.

Available from—Federal Programs Department.

Minneapolis Public Schools 40° Northeast
Brosdway, Minneapolis, MN 55413 (S9°5 plus
S2 00 billing charge if paymens does not accom-

pany order!

Pub Type— Guides · Classroom · Learner (051) —
Guides · Classroom · Teacher (052) ;

EDRS Price · NIF01 Plus Postage. PC Not Available from EDRS.

one from EDRS.
Dos.nplors—Art Activities. Change. *Creative
Thinking. Decision Making. Elementary Secondary Education. *Pulpies for Society I, Intelnistiplinary Approach. Language Arts... Learning
Activities. Mathematics. Planning. Problem Solving. Social Studies
Technical Contractions of the Contraction of th

Teachers can use these learning activisies to teach about the future in elementary and secondary social studies, science, math, language arts, and arts courses. The gurpose of the action es is to delo students practice crearise thinking skills, investigate ptoblems relevant to their Personal tututes, expenence she concept of chance, and evaluate alsema-rives and make decisions. The fearthing attributes are presented on cards intended for student use A teacher's guide accompanies the cards. Activity topics.

which are color coded on the cards, are futurist's tools, personal futures, home-school, and community, populations, environment and transporta-Each card lists materials, step-by-step directions, and discussion questions. Most of the activities are designed for individual students or small froups. Activities are many and varied. For example, students develop a time time of important things that have happened to them in their infetime and then the history of them school and chart the changes that have occurred since their school was cuit in other activities, students plan a nouse of the future, make a family tree, analyte census records, do an experiment with snow to see how clean it is, and make a chan companing different modes of transportation and fuel consumption. (Author, RM)

ED 206 517. SO 013 392
Bopulation Education: A Source Book on Content and Methodology.
United Nations Educational, Scientific, and Cultural Organization, Bangkok (Thailand) Regional

Office for Education in Asia and Oceania. Pub Date -- 80

Pub Type— Opinion Papers (120)

EDRS Price - MF01/PC06 Plus Postage.

Descriptors—Adust Education. *Comparative Education, Concept Teaching, Currectium Development, Developing Nations Educational Trends, Elementary Secondary Education, Family Planproach. Material Development. Population Education, Program Evaluation, Research Methodology Identifiers—*Asia. *Oceama

A collection of 12 essays provides an overview of A collection of 12 essays provides an overview of population education in Asia and Oceania with regard to concepts, status, approaches in curriculum and materials development, methodologies, and research and evaluation. The collection is presented in five sections. Section I explores general definitions of population education, its role as part of national artidependent programs, relationships between population growth, national development, resource utilization, and environment, and population educautilization, and environment, and population educa-tion as a means to promotificantly planning. Section If outlines interdisciplinary approaches in several countries and gives examples of population educa-tion content of school subjects including home economics, science, and social studies. Section III reviews various approaches to teaching population education (i.e. discovery, expository teaching), presents sample units and identified relevant ethical issues in areas including distributive justice, Politics, and economic development. Section IV suggests various research and evaluation designs. Section y discusses out-of-school population aducation in terms of program development and materials pro-duction. (AV)

ED 210 192 °

SE 035 929

Murphy. Elaine M. World Population: Toward abe Next Century. Population Reference Bureau, Inc., Washington,

Pub Date—Nov 81
Note—21p.: Contains shaded charts and graphs and
small print which may not reproduce well.

Available from Population Reference Bureau, 1337 Connecticut Ave., N.W., Washington, DC 20036 (single copy \$1.00, two or more copies \$0.-75).

Pub Type Guides - Classroom - Learner (051) -Guides · Classroom · Teacher (052) EDRS Price · MF01/PC01 Plus Postage. Descriptors—Developed Nations. Developing Na-

tions, Elementary Secondary Education, "Environmental Education, Global Approach, "Interduciplinary Approach, "Learning Activities, "Population Education, "Population Trends, "World Problems

The information and activities presented are designed to help teachers, students, and others better understand. (1) current and projected population patterns throughout the regions of the world, (2) ways in which populations change, (3) consequences of population change for individuals, families, societies, and the environment, and (4) the complexity of developing Policies to deal with problems associated with population change. An essay, slossary of terms, and data sheet provide information for answering the questions and doing the activines included. Suggestions for further reading are provided. (Author/DC)

ED 215 921 Lamy. Steven L. SO 013 977 Lamy. Steven L. And Others Comparattec World Issues for Grades 1-12. Com-

parative Studies Series.

Denver Univ. Colo. Center for Teaching Interna-

tional Relations.

Spons Agency—Denver Univ. Colo. Graduate School of International Studies. Denver Univ. Colo School of Education.

Pub Date-81 Note-123p.: Colored pages may not reproduce

Relations. University of Denver, Denver, CO 80208 (\$12.95 plus \$2.00 postage and handling). Pub Type—Guides - Classroom - Teacher (052) EDRS Price - MF01 Plus Postage. PC Not Avallable - EDRS. ble from EDRS.

bit from EDRS.

Descriptors—Advantaged. Civil. Libernes, Comparative Analysis. Developing Nations, Disadvantaged. Economic Development. Educational Games, Elementary Secondary Education. Ethnic Groups, *Global Approach, Individual Needs, International Relations, international Studies, Learning Activities, Quality of Life, Teaching Guides, World Problems

Guides. *World Problems
This teaching guide on global issues contains 20 activities for students in grades K-12. The global activities focus on the themes of inequality, development and technology, human rights, and basic human needs. For example, an activity called "Human Rights" shows students the distribution of find man rights shows students the distribution of stand in South Africa as compared to the number of black and white inhabitants. A game, "A Simple Roll of the Dice." shows students how chance plays an important role in the concept of inequality. An activity called "Limited World Model" demonstrates the called "Limited World Model" demonstrates the effect that the arms race, foreign aid, and technology have on both rich and poor countries. A game, "Help or Hinder. How to Give Good Aid," helps students explore whether the country receiving or the country swing foreign aid should determine the method of assistance. Each activity includes the best of the country between and hirs of observer. includes an introduction and a list of objectives. Specified are the grade level, time required for the activity, and materials needed. Information is given on procedure to follow and there are debriefing questions. Often there is a list of optional or additional procedures and references and resources. A major portion of the guide provides handout materials for teaching the activities. (Author/NE)

Zakarıva. Sally Banks Collins, If Thomas Zakarwa. Sally Banks Getting Started in Global Education; A Pelmer for Principals and Teachers

National Association of Elementary School Principals, Arlingion, VA. Spons Agency—Office of International Education (ED). Washington, DC.

Pub Date-82

Note-28p.

Available from—National Association of Elementary School Principals, 1801 North Moore Street, Arlington, VA 22209 (\$4.00).

Arlington, VA 22209 (SN.00).
Pub Type—Guides - Classroom - Teacher (052) —
Guides - Non-Classroom (055)
EDRS Pelce - MF01/PC02 Plus Postage.
Descriptors—*Curriculum Development. Educational Needs. Educational Objectives. Elementary Secondary Education. *Global Approach.
Position Papers. Professional Associations, Research Utilization. Resource Materials. *Social Studies Studies

The articles and background information in this publication will be useful to K-12 principals and pundation will be useful to K-17 principals and teachers interested in starting a global education program. The material presented is drown from a variety of sources, including "Principals," the jour-nal of the National Association of Elementary School Principals, from which a number of articles included ate reprinted. Goals and objectives in global education are discussed and outlined. The need for a glubal perspective on cinrenship is presented. What research says about where to teach Stubat with cation is examined. For example, research strongly suggests that schools should begin emphasizing a global perspective during the elementary school years. Also, recent research asserts that the period from age 7 to 12 is optimal both for education directed toward attitudinal objectives and for open-ness about the world. One article answers some commonly asked questions about global educatione.g. How can I tell if what we're doing now is global education?, and Doesn't global education mean incressed costs? Position statements on global education from educational organizations are provided in another article. The publication concludes with a bibliography of resource materials in global education (RM)

Litter Control Achievement - Ohlo 4-H Club Score
Sheet [and] Activity Guides 1 through 7. 4-H
Pilot Program 918.
Ohlo State [16].

Ohio State Univ., Columbus, Cooperative Extension Service.

sion Service.

Spons Agency—Ohio State Dept. of Natural Resources, Columbus.

Pub Date—Feb 82

Note—24p.; May be some marginal legibility due to colored paper. Best copy available.

Pub Type—Guides - Non-Classroom (055)

EDRS Price - MF01 Plus Postage. PC Not Available from EDRS.

Descriptors—Felementary Secondary Education.

Descriptors— Elementary Secondary Education, Environmental Education, Guidelines, Learning Activities. Pilot Projects, Pollution, "Waste Disposal, *Wastes Identifiers—*4 H Clubs, *Litter Education Pro-

Identifiers—'4 H Clubs, 'Litter Education Programs, Ohio
Seven activity guides, evaluation sheet, and club scoresheer have been prepared for Ohio 4-H clubs' litter education program Topies of the seven activity guides include: (1) general guidelines and types of activities; (2) little known facts about waster/litter; (3) guidelines for a walking tour; (4) fact sheet (questionnaire) related to garbage; (5) roadside litter survey; (6) roadside litter survey; (6) roadside litter elean-up campaign; and (7) how to organize a paper drive. The scoresheet is in checklist format and includes types of activities (with point values) and spaces to indiof activities (with point values) and spaces to indicate total club membership, number of members participating in a given activity, and total point values. The evaluation sheet luss eight items to be answered and returned to the developers of this pulot program. (JN)

ED 218 204 SO 014 158 Developing Global Education Teaching Skills.

Washington Office of the State Superintendent of
Public Instruction, Olympia. Office for Equity

Education.

Pub Date-Feb 82

Nore-70p., Not available in paper copy due to print on colored paper. Some pages may hot re-

print on colored paper. Some pages of produce clearly in microfiche.

Available from—Office for Equity Education Office of the State Superintendent of Public Instruction, 7510 Armstrong St., S.W., Tumwater, WA. 98504 (free).

Pib Type — Guides - Classroom - Teacher (052) EDRS Price - MF01 Plus Postage, PC Not Availa-ble from EDRS. - Classroom - Teacher (052)

Descriptors-Cross Cultural Studies. *Curriculum Development, Definitions, Educational Needs, Educational Objectives, Educations Trends, Elementary Secondary Education. *Global Approach, Skill Development, Social Attitudes, *Social Studies

This publication Provides a framework for the development of global education teaching akills, K-12. There are seven major sections. Section I very briefly describes the contents of the publication. Section II casmines the need for global education. Discussed are forces creating the global age, global issues, major trends in the international field, the neglected aspect of foreign affairs, lack of teacher education competencies, the need for internationalism in American education, and how American education must change Section III. "What is Global Education?" presents various delimitions and deacriptions of global education. Section IV outlines attitudes, knowledge, and skills that can be taught through global education. The goals of education are the topic of Section V. How to establish a global education framework is discussed in section VI. Included is a discussion of dimensions of global leadership, organizing themes for social studies, a proposal for a nationally and internationally onented curriculum, and global education goals. The concluding chapter discusses how to leach culturein the classroom. Included among the topics examined ate cross-cultural approaches and skitls, goals of cross-cultural education, and attategies and techniques for teaching about culture. (RM)



Multidisciplinary

Elementary/Middle

ED 045 375

SE 009 756

Veiwo, Frank The Sea, An Interdisciplinary Approach to Marine Science for Elementary School Children, Newport-Mesa Unified School District, Newport

Beach, Calif.

mentary and (DHEW/OE), Spons Agency-Bureau of Elementary Secondary Education Washington, D.C. Pub Date [70]

Note-20p.

Available from Newport-Mrss Unified School District, Space Science Learning Program, Mrs Fay Harbison, 1601 16th St., Newport Beach, Calif. 92660

EDRS Price MF-\$0.25 HC-\$1.10 Descriptors—Conservation

Education. Elementary Sehool Seience. Environment., "Environmental", Education, "Inst Materials, Natural Resources "Oct Outdoor Education, "Teaching Guides Identifiers—ESEA Title III *Instructional *Oceanology.

This teacher's guide develops an interdisciplinary approach to marine science for elementary sphool children. The lessons are concerned with food chains, interdependencies. physical characteristics, comparative dissections, and student involvement in political issues dealing with water and air pollution. For each activity. with water and an position, in each objectives, materials needed, procedure, evaluation, and follow-up. This work was prepared under an ESFA Title III contract (AB)

SE 010 422

Environmental Education Instructional Activities,

K-6. New York State Education Dept., Albany. Pub Date 70 Note-\$8p

EDRS Price MF.50.50 HC-\$3.00

Descriptors Curriculum. Ecology. Elementary Education. Environmental Education. Instruction. "Instructional Materials. "Learning Activities. Natural Reso Materials, Teaching Guides Resources. Resource

Materials, "Teaching Guides
As one in a seriet of two teacher's guides
dealing with environmental education, this
publication for grades K-6 contains basic
concepts, activities, and questions designed to
emphasize the primary role of man as a
participant in rather than master of, his natural surfoundings Topics covered include survival, interdependence, scarcily, recyclement, right vs, responsibility, planning, valuing, social forces, and optimism For each concept or generalization, activities which the teacher might conduct are suggested accompanied by several probing questions. Activities are not intended to reflect a subject matter orientation. Three appendices provide useful information as to [1] a list of subject headings and topics portinent to the environment, (2) periodical, general, and film indeses featuring environmental emperies, (3) individuals, groups, and government agencies that may serve as resources of information or as elastroom speakers on the environmental issue. (BL)

ED 056 873

SE 012 585

Nelson, Redgy Prais. Cay Nelson, Redgy
Eagle Heights Woods: Man's Use of Land. Madison Public Schools, Wis.

Pub Date [71]

Note-17p.

EDRS Price SIF-\$0.6\$ HC-\$3.29

EDRS Price MF-\$0.65 HC-\$3.29

Descriptors—Audiovisual Aids, "Ecology, "Eleméntary Grades, Environmental Education,
Filmstrips, Instructional Materials, "Land Use,
Outdoor Education, "Semanties, "Teaching Guides

-ESEA Title III

Identifiers—ESEA True in

This teacher's guide for use in the elementary
grades was prepared as a result of the 1970 Local
Materials Workshop on Outdoor Education.
Madison. Wisconsin is develops the energy of a land ethnic as expressed by Aldo Leopold in "A Sand County Almanac". A filmstrip is employed to discover the meaning of several words pertinent to ecology-environment, ecosystem, com-munity, habitat, niche, food chain of web, prima-ry producers, consumers, decomposers, predators. ry producers, consumers, decomposers, predators, camouflage, and succession. Settings for such discovery include the schoolyard, going to find from school, home, a nearby field, and Eagle Heights Woods. The filmstrip is explained in its entirety, illustrating case frame and its accompanying script. The filmstrip is not included. This work was prepared under an ESEA Title III contract. (BL)

ED 058 049,

Major, James M. Cissell. Charles A.
Environmental Education, Objectives and Field
Activities, Fourth Edition.

Paducah Public Schools. Ky.

Spons Agency—Bureau of Elementary and
Secondary Education (DHEW/OE). Washing-

ion. D.C. Pub Date 71 Note-379p.

EDRS Price MF-50.65 HC-513.16

EDRS Price MF-30-05 HC-313-16
Déscriptors—Curriculum Enrichment. *Environmental Education. *Field Instruction. Interdisciplinary Approach. *Learning Activities.
*Natural Resources. Objectives. Outdoor Edu-

Natural Resources, Objectives, Outdoor Edu-cation. Teaching Guides Identifiers—ESEA Title III Contained in this teacher a guide are educa-tional objectives and numerous field activity suggestions for environmental education. Part One deals with the total environmental education pro-gram, primarily developed for lifth grade stu-dents, but adaptable to any level, age six to adult. Sample objectives of an environmental education program, general educational objectives, school objectives, and subject areas of study objectives are outlined in addition to a suggested instructional approach and philosophy of environmental education. Part Two describes 125 field activities developed for elementary and high school stu-dents using the Youth Activity. Station, Land Between the Lakes, Kentucky. These are in the areas of life science, earth science, art, astronomy, weather, conservation, ecology, social studies, and language arts. A bibliography, sample program schedule, checklists, and section on wris-ing behavioral objectives are also included. This work was prepared under an ESEA Title III con-tract. (BL)

ĒD 059 085 SE 013 282

Island Natural Science School. Toronto Board of Education (Oniario). Pub Date 70

EDRS Price MF-50.65 HC-56.58

Descriptors-Conservation Education, *Ecology. *Grade 6, *Instructional Materials, Learning Activities, *Manuals, Natural Resources, *Out-door Education, Student Projects, Units of

Study (Subject Fields)

Prepared for students in grade sis attending the Island Natural Science School, Toronto, Ontario, Canada, this booklet offers information and sug-gests activities in the areas of ecology, conservation, natural resources, and outdoor recreation Introductory material describes island lore, its formation and significant features, followed by units of study on conservation, ecology, biology. plants, animals, pond ecology, birds, bees, weather, geology, and farming The workbook format allows students to write in answers to questions asked or note observations gained from the learning activities. General background infor-mation on the subject is also provided. Outdoor pursuits, the final unit, offers ideas for orienteering, bait casing, archery tatget shooting, and survival Follow-up activities, references, equip-ment lists, and general statements about ecology conclude this student manual (BL).

ED 059 947

SO 002 611

Lundgren, Laurie L.

A "Save Our Trees" Project for Primary Gradez
Western Washington State Coll. Bellingham.
(Husley Coll. of Environmental Studies.

Spons' Agency-Office of Education (DHEW).
Washington, D.C.
Bureau No-BR-0-0848

Pub Date Qet 7! Grant—OEG-0-70.\$039 Note—49p.

EDRS Price MF-\$0.65 HC-\$3.29

Descriptors—"Activity Learning, Community Ac-tion, Concept Teaching, "Conservation Education, Ecology, Elementar, Orades, "Environ-mental Education, Environmental Influences, Forestry, "Interdisciplinary Approach, Junior High Schools, Natural Resources, Outdoor Education, Pollution, Program Descriptions,
"Recycling, School Community Programs,
Secondary Grades
Identifiers—"Ecosystems, Sedro Woolley Project

This idea-generating description of a successful elast project tells how second grade students, through viewing a film on ecology were motivated toward involving teachers, schools. parents and community in a cooperative effort to collect used paper for recycling Objectives of the. project were to, 1) enable students to identify environmental concepts, 2) achivate pupils toward solving environmental ptoblems, 3) encourage pupils in discovering the causes of environmental problems, 4) develop ways, means, and materials for incorporating environmental education into esisting curriculum, and 5) involve the adult community in treating environmental problems Activity learning, in which students had printary responsibility for performing daily and weekly tasks, was combined with a multidisciplinary approach relating the project to the total curriculum. Money earned was to go toward an atboretum at the school. It was concluded that decitions need to be made as to the integration. scope, and sequence of chvironmental education



in the existing curriculum It is requested that users of the teport share their results with the project staff. Follow-up activities include continuation of paper recycling and the possible start of a center for recycling bottles and cans. SD 002 612 is a related report. (Author/S/M)

- '_- SO 002 612

Flord, Susan A Study of Patrerus and Tree Succession as Euvironmental Education for Intermediate Grades. Western Washington, State Coll., Bellingham. Huxley Coll. of Environmental Studies Spons Agency-Office of Education (DHEW).

Washington, D.C.
Buccau No—BR-0-0848
Pub Date Oct 71
Geant—OEG-0-70-5039

EDRS Price MF-\$0.65 HC-\$3.29

Descriptors-Art Education, Conservation Educasion. "Ecology, Elementary Grades, "Environ-mental Education, Humanities, "Interdisciplinary Appitoach, Intermediate Grades, Language Arts, Mathematics Curneulum, Music Educa-tion, Science Curneulum, Social Studies,

tion. Science Curneulum. Social Studies. Teaching Guides dentifiers—Eccsystems, Sedro Woolley Project Presented hete are ideas for multidisciplinary environmental education. The suggestions are esamples of ways in which environmentally beneficial learnings can be incorporated into the existing euriteulum, and are intended to assist in the development of learning packages. Among the fore overall chieffirest listed are 1) to develop five overall objectives listed are 1) to develop personal patterns of behavior and attitudes reflecting and personalizing observation of natu-ral patterns, learning to value objects through perception of their place in patterns, and, 2) to provide specific environmentally significant learnings in math, social stedies, art, science, music, and language arts. The concepts of Pattern and Tree Succession are laught within the framework of the apove subject areas of a threestep sequence an introduction within the classoom (pre-site work i observation site work; and, application to student values (post-site work).

Due of the post-site activities suggested for the concept of tree succession in social studies is to imagine the development of a forest commonity imagine the development of a torest community, around the tree represented by your wood slab, and draw pictures of howeths community might have looked during five-year intervals. Then, and traw percent of the spear intervals. Then, compare the growth of the forest community with the growth of your community on the time continuum represented by the tree. (Author/3LB)

ED 059 949

20 002 615

Hillier, Dwight
Developing Environmental Awareness in a Fifth-Grade Class of "Below-Average" Achievement Western Washington State Coll. Bellingham. Huxley Coll of Environmental Studies.

Spons Agency—Office of Education (DHEW).
Washington, D.C.
Report No—SW-PR-10
Bureau No—BR-0-0318

Pub Date Nov 71

Grant - DEG-0-70-5039 Note - 20p. EDRS Price MF-50.55 HG-53.29

Descriptors - Activity Learning. Teaching, Conservation Education. Concept Elementary Grades, "Environmental Education. Field Instruction. Grade S, "Interdisciplinary Approach. Mathematics Curriculum. Outdoor Education. "Perception. Program Descriptions. Slow Learners

Identifien - Ecosystems. Sedro Woolley Project The ideas pessented are ways in which teachers can incorporate environmental education into 5th grade general or slow learnee curriculum. Objectives of the project were to provide the teacher, with an aid in teaching about environment, and to help the student. 1) perceive and develop an awareness of the environment, 2) relate to his environment. 3) manipulate and change the en-vironment. 4) realize that mathematics is a useful tool for studying environment, and, 5) conduct within the elassroom eaperiments on environmen. tal projects. A concept, objective, method, and evaluation is stated for each of the five major sludent Objectives. The project classroom was self

contained, and most of the work was field. ottentell with very little student research or writ. ten work. It was concluded that changes of stu-dent attitudes occurred. Lists of supplemental methods are included which provuke high student interest, create good learning situations, and are possible on a limited budget. Related documents are SO.002 611. SO 002 612. and SD 002 616. (Nuthor/SJM)

. SO 002 613 ED 061 118

Shafer, Angelys K.
An Environmentally Related Program for the First
Grade.

Western Washington State Coll., Bellingham. Huxley Coll. of Environmental Studies.

Spons Agency—Office of Education (DHEW), Washington, D.C.

Repags.No—P.R.7

Bureau No—BR-0-0848

Pub Date Nov 71

Grant-DEG-0-70-5039 Note = 34p. EDRS Price MF-\$0.65,HC-\$3.79

Descriptors—Creative Activities, Creative Winting, Dance, Elementary Grades, "Environmental Education, Grade 1, Grade 3, Interdisciplinary Approach. Outdoor Education. Photography. Reports. Teaching Guides. Teaching

Techniques | Identifiers-Learning Activity Packets, Sedro Woolley Project

This narrative description of the author's participation in an environmental education program is intended to provide first grade teachers with ideas for incorporating multidisciplinary environ-mental education into the existing curriculum. Environmental education, within this publication, is broadly conceived. In addition to the more traditional focus on experience with and respect for living things, a variety of attitudes and techniques for humanizing the elassroom ex-perience are also discussed. An appendix includes three learning activity packages: 1) a program using cameras to increase environmental awareness; 2) an expression in movement program to enhance awareness of shapes and motion; and, 3) a creative writing activity (for the third grade) that centers around the theme of the pupd in his environment. Each package is obtlined in terms of objectives, activities, the author's own experience with the Package, and books and materials required: A bibliography of books, films, and other aids for teachers and students is included. (Author/AWW)

ED 067 218. SE 009 291

Foster, Albert B. Fox, Adnan C.
Teaching Soil and Water Conservation: A Class-Foster, Albert B. room and Field Guide. Soil Conservation Service (USDA), Washington.

PD.C Report No-PA-341 Pub Date Aug 70 Note -32b

EDRS Price MF-\$0.65 HC-\$3,29

Descriptors-*Conservation Education. *Elementary Grades, Environmental Education, Field Studies, Instructional Materials, *Learning Activities. Natural Resources. *Soit Conservation.
Teaching Guides. *Water Resources

Compiled in this booklet are 22 activities designed to develop awareness of the importance of conservation and the wise use of soil and moisture on emplands, grasslands, and woodlands They have been selected by Soil Conservation Service (SCS) personnel and consultants to show that the way we manage our basic natural resources, soil and water, and their paste natural resources, soil and water, and their products, is important in determining our present and future welfage. The practical suggestions will aid teachers in Carrying out activities and observations in the classroom and out-of-doarn, mostly on the school grounds or in the community. Each activity is presented in two parts: a how-to-do-it part and an interpretation. The first is written in a language and style for presentation to students, outlining steps to follow to earry out the activity The second part, interpretation, given background information and explanation of procedures where plement the narrative material This guide is recommended for use with "An Outline for

Teaching Conservation in Elementary Schools," SE 014 276 (BL)

ED 067 241 SE 014 499 Environment, Teacher Manual Primary, Idea 1, 1 and

Environmental Education Project. Grafion. III Spons Agene)—Bureau of Elementary and Secondary Education (DHEW/OE), Washing-

ton, D.C. Pub Date [72]

EDRS Price MF-50.65 HC-53.29

Descriptors — "Environmental Education, Instruc-tional Materials, "Land Use, Learning Activi-ties, Natural Resources, "Primary Grades, Teaching Guides. Units of Study (Subject Fields)

Identifiers-Elementary Secondary Education Act Title III. ESEA Title III

The Environmental Education Project Center has developed these guidelines for teaching a unit in environmental studies. It is their intention that the teacher and student cooperatively plan the approach and content to be used during the course of study. In this junit about land, teacher resource information and student material are combined to form a teacher's manual for use in the primary grade levels. Protect observed in the primary grade levels Project objectives, ochavioral objectives, and pre- and post-test questions introduce the unit sections followed by ideas, actions, and/or activities to develop awareness of land and its uses. Major topics of discussion range from plants and animals associated sion range from plants and animals associated with soil relative, control measures, and resource use Field trips emphasting concepts previously learned are suggested, and additional sources of information and materials (yr both students and teachers are listed. This work was prepared under an ESEA. Title III contrast for the project Operation Survival Through Environmental Education." (BL)

ED 067 242 SE 014 500 Environment, Teacher Manual Intermediate. Idea

Environmental Education Project. Grafton. III Spons Agency—Bureau of Elementary and Secondary Education (DHEW/05%, Washingand ton, D.C. Pub Date [72]

Note - 310

EDRS Price MF-\$0.65 HC-\$3.29

- *Environmental Education, Instrue tional Materials, "Intermediate Grades "Land Use, Learning Activities, Natural Resources, *Teaching Guides, Units of Study (Subject Fields)

Elementary Secondary Education Act Identifiers.

Title III. ESEA Title III

The Environmental Education Project Center, has developed these guidelines for teaching a unit in environmental studies. It is their intention that the teucher and student ecoperatively Plan the approach and content to or used during the course of study. In this unit about land, teacher resource information and student material are combined to form a teacher's manual for use in the intermediate grade levels. Project objectives. behaviotal objectives, and pre- and post-test questions introduce the unit sections followed by ideas, actions, and/or activities to develop awareness of land and its uses. Major topics of discus. sion range from plants and animals associated with soil to litter, control measures, and resource use. Field tips emphasizing concepts presuously learned are suggested and additional sources of information and materials for both students and teachers are listed. This work was prepared under an ESEX, Tale. Ill contrast for the project Operation Survival Through Environmental Edu. cation." (BL)

ED 067 246 SE 014 504 Environment, Teacher Manual, Intermediate, Idea

Environmental Education Project, Grafton, III Spons Agency—Burgay of Elementary and Secondary Education IDHEW. OE), Washington, D.C. Pub Date [72] Note - 43p

EDRS Price MF-\$0.65 IIC-\$3.29 Descriptors- "Are Pollution Control. "Environ-

mental Education. Instructional Materials. "Intermediate Grades, Learning Activities, Natural Resources, "Teaching Guides, Lints of Study (6.53, 2.55, 4.7) Resources, "Tea (Subject Fields)

Identifiers - Elementary Sceondary Education Act

Title III. ESEA Title III

The Environmental Education Project Center has developed these guidelines for teaching a unit in environmental studies. It is their intention that the teacher and student cooperatively plan the approach and content to be used during the course of study. In this unit about air, teacher resource information and student material are combined to form a leacher's manual for use in the intermediate grade levels. Project objectives and behavioral objectives introduce the unit followed by ideas, actions, and of activities to develop awareness of air qualities and pollution effects. Major topies of discussion range from identifying sources and symptoms of air pollution to testing air quality and developing constructive action to combat pollution. Field trips emphasising concepts previously learned are suggested and additional sources of information and materials for both students and trachers are listed. This work was prepared under an FSEA Title III contract for the project "Operation Survivat Through Environmental Education (OL)

ED 070 680 ' SE 015 554 Environment, Teacher Manual, Primary, Idea 3.

Environmental Education Project, Granton, M Spons Ageney-Bureau of Elementary and Secondary Education (DHEW/OE), Washing-

ton, D.C. Pub Date 72

Note = 54p, EDRS Price MF-S0.65 HC-\$3.29

*Environ-Descriptors—Behavioral Objectives. mental Education, Instructional Materials, Learning Activities, Natural Resources, \$Primary Grades, Student Teacher Reiktionship, *Teaching Guides L'nits of Study (Subject Fields). Water Resources dentifiers-FSEA Title III

Identifiers—FDEA Trite in

The Environmental Education Project Center
has developed these guidelines for teaching a unil
in environmental studies. It is their intention that
the teacher and student cooperatively plan the approach and content to be used during the course of study in this time about water, teacher resource information and student material are resource information and student material are eombined to form a teacher's manual for use in the primary grade levels. Project objectives, behavioral objectives, and pre- and post-test questions introduce the unit sections followed by ideas, actions, and/or activities to develop aware. ideas, actions, and/or activities to develop awareness of water qualities and pollution effects. Major topics of discussion range from uses of water, farmfor drainage, and watershed litter to the effects of sewage nn streams and treating wastewater. Pield trips emphasizing concepts previously learned are suggested and additional sources of information and materials for both stu-dents and teachers are listed. This work was prepared under an ESEA Title III cuntract for the project "Operation Survival Through Environ-mental Education." (BL)

ED 070 681 SE 015 555 Environment. Teacher Manual, Intermediate, Idea

Environmental Education Peoplect, Grafton, III Spon: Agenc, -Bureau of Elementary and Secondary Education (DHEW/OE), Washing.

ton, DC Pub Date 72 Note = 6 sp

EDRS Price MF-50.6S HC-53.29

Descripturs—Rehavioral Objectives, "Environ-mental Education, Instructional Materials, "In-termediate Godes, Learning Activities, Natural Resources. Student Teacher Relationship. *Teaching Guides. Linits of Study (Subject Fields), *Water Remorces

Identifiers - ESI. A Title IU

The Environmental I Jucation Project Centee hás developed these goodelines for teaching a unit in environmental studies. It is their intention that the teacher and student emperatively plan the approach and content to be used during the course of study. In this unit about water, teacher resource information and student material are

combined to form a teacher's manual for useem the intermediate grade levels Project objectives. behavioral objectives, and pre and post jest questions introduce the unit sections followed by and post içil ideas, actions, andior activities to devalup aware ness of water qualities and pollution effects. Mosey topics of decusion range from uses of water, fermiot drainage, and watershed litter to the effects of sewage on speams and treating the effects of courge on speams and treating wavewater. Field trips emphasizing concepts previously learned are suggested and additional sources of information and materials for both students and teachers are listed jubits work was prepared under an ESEA Title III compact for the project. "Operation Survival Through Environmental Education." (BL)

ED 073 923

SE 015 690

Childress, Ronald B. Investigations for a Mobile Environmental Educa-tion Laboratory. Kingsport City Schools, Tenn

Spons Agency-Tennessee Valley Authority. Knosville.

Pub Date 72 Note -- 230p.

EDRS Price MF.\$0.65 HC.\$9.87 Descriptors—"Elementary Grades, "Environmental Education, Instructional Materials, Investigations, Learning Activities, Natural Resources, Secondary Grades, Student Pro-Resources, "Secondary Grades, Student Pro-jects, "Teaching Guides Environmental investigations in this compile-

tion were developed in conjunction with the establishment of a mobile environmental education laboratory, a demonstration project of the Kingsport (Tennessee) City School System. The 5G activities are divided into five eategones, basic resources, environmental problems, living organisms, community relationship, and in-service actevities. Mathin each emergery, investigations are forther sub-distilled into lewer elementary, upper elementary, and secondary grade levels. Covering a wide range of subjects water, water, soil, land use: a wide tange of subjects, and, water, soil, land user geology, noise, vegetation, animals, forestry, weather, chemical reactions, recycling, population, communities. Effects of man, etc., each investigation outlines suggested grade level, physical study area, equipment needed, theme aniflot scope of the activity, objectives, procedures to follow, and interpretations or finding based, on the research completed Space is provided for completing data sheets and charts and answering questions. Thus, the manual may be used by both teachers and students, depending on the grade level. A related document is "Mobile Environmental Education Laboratory," SE 015 689.

ED 080 291

SE 014 476 ·

Ablahemson, Gloria A Year-Long Environmental Project for Primacy Grades.

Western Wachington State Coll . Bettingham Husley Coll of Environmental Studies

Spons Agency - National Center for Educational Research and Development (DHEW.OE), Washington, D.C. Report No.-SWIPR.8 Burgan No.-BR-0-0848

Pub Date Nov 71 Grant-OEG-0-70-5039

EDRS Price MF-S0.65 HC.\$3.29

Descriptors-Curriculum Developments *Teuching Grades. Program Descriptions.

theseasing the Opportunities for young children to became perceptive of the environment around them is the goal of a vear-long-environmental project for primary trade students described in this booklet. An environmental encounter approuch is adopted, focusing all of one's tenses on the particular environment he is esperiencing at the moment, analyzing how he perceives it and tow he feel, about it. The ideas presented are es amples of incorporating chrisonmental tearnings into the creatment of subject matter already being Jealt with Several encounters are briefly an notated for use in developing perception of self

For tearning about the world through the use of the senses and as an aid in schieving the goal or, self-perseption, three units from TV series are also summistred. Activities in many cultification areas that could be used to help descrip and deepen the childrens environmental perception are explained. There actuates make particular use of camera, and encommental encounters. Some of the problems characteristic to this edu-Columbal approach are related together with recommendations regarding following programs Appended material includes examples of studeois griginal poems (BL)

ED 081 602 SE 016 608 Teaching Environmental Pollution. Grades 4.6.

Spons Agency—Aftrona State Dept of Educa-tion, Phoenis, Bureau of Elementary and Secondary Education (DHEW/OE)' Washing. ton, D.C.

Report No - Proj-12-69-0015

Pub Date [73] Note _ 67p.

EDRS Price MF-\$0.65 HC.\$3.29
Descriptors—"Elementary Grades, "Environmental Education, Learning Activities, Lesson • Teaching Perception. Pollution. Guides

Identificrs-Elementary Secondary Education Act
Title III, ESEA Total III

This guide is accessfy oriented and designed to provide environmental especiances for children in grades four through us which will-involve them or making value judgments relative to these own community Consent covers problem dealing with air pollution, water pollution, solid wasses, and the abstitutes of visual pollution. Five to fourneen lessons are suggested for each major area andicating the individual topic to be studied. aim of the lesson, approach or key questions, nutline (Ot information), activities, and resource materials. Diagrams, charts, and maps are drawn when appropriate. The material may be used independently or integrated into the existing Populum This work was prepared under an ESEA Title III contract for Project Outreach, Phoenis. Antona. (BL)

SO 006 445 All Around You. An Environmental Study Guider Bureau of Land Management (Dept. of Interior).

Washington, D.C. Pub Date Mar 73

Note-148p

Available from-Superintendeht of Documents. U.S. Government Printing Office, Washington, D.C. 20402 (\$2.35 Stock number 2411,000a3) FDRS Price MF:\$0765 HC-\$6.58

FDRS Price MF:\$005 HC.\$6.58

Descriptors—"Activity Units Bibliographies.
"Ecological Factors, Elementary Grades, "Environmental Education, Intermediate Grades, Natural Resources, Outdoor Education, Perception, Population Education, Study Quide for environmental education focuses on development of knowledge and actilized concerning environmental factors and inter-relationships. The adjustics designed for use in elementary and intermediate grades begin in the classroom and most outside to the classroom and most outside schoolyard, the town, and natural or tural areas Three units dealing with enfironmental awareness, the urban ecosystem and nature's ecosystem are detailed. Appendices include a vocabulary hist and bibliographies of refered lead-ing materials. (SHM)

ED 085 247

SE 016 981

McLaughlin, Dennis Art/Environmental Aesthetics: A Guide for Ele-

mentary Teachers.
Milwaukee Public Schools, Wis Div. of Currieu. lum and Instruction.

Pub Date 73 Note- 69p.

EDRS Price MF-\$0.65 HC.\$3.29

Descriptors... Activity Learning. Art Activities. "Art Education. Curriculum. Environmental Education. "Guides, "Instructional Materials, "Instructional Materials, "Interduciplinary Approach, Objectives Identifiers—Mementary, Secondary Education Act. Title III, ESEA Title III

This guide attempts to provide an overview of environmentally related art especiency already in various curriculum guides, to introduce new es-



periences, and generally to emphasize the vital interrelationship that exists between environmental oncern and the art process. There is a division nto three main areas: our natural environment. our man-made environment, and our inner en-vironment. Concepts and objectives are listed with suggested activities and materials to be used Addresses where audio: visual and other instructional material may be obtained are also given. This document is a product of the Milwaukee Public Schools Master Flan for Environmental Education Development of curriculum materials to achieve integration of environmental education into the existing curriculum is a goal of one of the eight components of the Master Plan. For further details of this plan, see SE 016 978 and SE 016 979 This work was preputed under an ESEA Title III contract. (JPI

ED 086 499 Sterling, Vicki And Othert Nature's Art.

Chester Area Schools, S Dak Interlakes En-Chester Area Senoois. 5 Dat intertakes Environmental and Quidoor Education Program
Spons Agency—Bureau of Elementary and
Secondary Education (DHEW/QE). Washington, D.C
Pub Date 1 Sep 72
Note—132p.
EDBS Balls ME 50.65 MC.56.58

SE 016 948

Descriptors—Art. *Art Education. *Elementary
Grades, *Environmental Education. Guides. Instructional Materials, Interdisciplinary Approach. *Learning Activities, Resource Materi-

Identifiers-Elementary Secondary Education Act

Title (II. ESEA Title III Over 60 art activities, designed to enhance en-Over 60 art activities, designed to enhance environmental awareness and incorporate environmental concepts, are outlined in this document. A sample of the activities presented are decorated notepaper and eards with feathers or weeds, wall plaques of prairie plants, methods of flower preservation; water plant prints; construction of dolls, fairies. Christmas ornaments, and pirds from milkweeds; bottle decorations, insect the activities are an enterprise of an obtton studies. tivities are an outgrowth of an outdoor studies program of Chester Area Schools (South Dakota). This work-was prepared under an ESEA Title III contract. (JP)

SE 016 949 ED 086 S00

Sterling Vicks, Hyland. Barb
Nature's Bulletin Board Idess.
Chester Area Schools, S Dak Interlakes Environmental and Outdoor Education Program
Spons Agency—Bureau of Elementary and
Secondary Education (DHEW/OE), Washing. ton, D.C. Pub Date [73]

EDRS Price MF-\$0.65 HC-\$3.29
Descriptors—Bulletin Boards,
School Sciency, Instructional
Resource Guides Visual Aids • Elementary

Identifiers—Elementary Secondary Education Act
Title.III. ESEA Title III

Thus is a collection of over 50 bulletin board displays suggested for use in the elementary (K-8) science classroom. The recommended grade level for each is given, purpose stated, and relation to units in the curriculum given. Also inejuded are general tips on making effective bul-letin board displays. This work was prepared under an ESEA Title III contract. (LS)

EĎ 092 389 SE 017 960

Environmental Learning Experiences for Kinderstrand Crede.
Ohio State Dept of Education. Columbus. Willoughby Eautake School District. Willoughby, Ohio.

Spont Agency - Bureau of Elementary and Secondary Education (DHEW/QEI, Washington. D.C. Pub Date 73

Note-68p. For related documents, see SE 017

961 and 962 DRS Price, MF-50.75 HC.53.15 PLUS DRS

Descriptors-*Elementary Solitool Science, *Environmental Education, Grade 1, Grade 2, Instructional Materials. Interdisciplinary Approach. Learning Activities, Resource Materials, Teaching Guides ldentifiers—*Elementary Sec 1 Act Title III. ESEA Title III Secondary Education

This collection of teaching units is one of three volumes designed to assist teachers in bringing televant, interdisciplinary, environmental learning experiences to elementary students. This first volume is aimed at the K-2 level and deals with the immediate environment of the student. Titles the immediate environment of the student. Itles of the nine units presented are Preparing for Seasonal Change Fall. The Terranum; Food Chains, Food Web, Birds in Our Lives: Trees; Trach, Dirt and Stuff; and Kuttens, For each unit, objectives are specified, a series of learning acteacher background information and listing references (including books and periodicals, films, transparencies, duplicating masters, picture sets, pamphlets, and records) are provided. (DT)

SE 017-961 ED 092 390 Environmental Learning Experiences for Grades .Three and Four.

Ghio State Dept of Education, Columbus.; Willoughby, Eastlake School District, Willoughby.

Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE). Washing. ion. D C.

Pub Date 73 Note-114p., For related documents, see SE 017 960 and 962

Price MF.50.75 HC-55.40 PLUS EDRS POSTAGE

POSTAGE
Descriptors—"Elementary School Science, "Environmental Education, Grade 3, Grade 4, Instructional Materials, Interdisciplinary Approach, "Learning Activities," Resource Materials, "Teaching Guides Identifiers—"Elementary," Secondary Education Act Title III. ESEA Title III

This second of three volumes designed to bring relevant, interdisciplinary, environmental learning relevant, interdisciplinary, environmental learning

experiences to elementary students is written for experiences to elementary students is written for grades 3 and 4 and is concerned with the student's local environment. Titles of the 10 units included in this volume are The School Lawn. The Vacant Lot, Giants' on the Land: Trees in Our Environment. Wild Ideas with Wild Plants; The Endangered Predator, The Cemetery. An Environmental Quality Index for the School and Neighborhood. Poetry in the Environment; Wild Life-oi Death: Air Pollution. For each unit, obsertives are specified. Pollution. For each unit, objectives are specified, a series of learning activities are described, and appendixes giving teacher background informat tion and listing references for teaching resources are provided. (DTI

SE 017 962 ED 092,391... Environmental Learning Experiences for Grades Five and Six.

Ohio State Dept. of Education. Columbus.. Willoughby-Eastlake School Distriet: Willoughby.

Spons Agency—Buceau of Elementary, and Secondary Education (DHEW/OE), Washington, D.C. Pub Date 73

Note—84p., For related documents, see SE 017 960 and 961 EDRS. Price MF-50,75 HC-\$4,20 PLUS

EDRS Pric

POSTAGE

Descriptors - Elementary School Science. *Environmental Education. Grade 5. Grade 6. Instructional Materials Interdisciplinary Approach Learning Activities, *Resource Materials, *Teaching Guides

Identifiers - Elementary Secondary Education Act Tute III. ESEA Title III.

Act title iii. 2008 title iii The third of this series of three volumes on in-rdisciplinary environmental leagning esterdisciplinary environmental learning ex-periences for elementary students is aimed at grades 5 and 6 and deals with the comunity environment of the student. Titles of the eight units included in this volume are Problem Solving. Howard Plan a Clean-up Campaign in the Local Community, Sears upon the Land, Water, Life Blood of the Earth; Noise Pollution; Succession and the Pond Community, Animals and Their Habital, and Our Native Lands Consesve and Preserve Objectives are specified for each unit, a series of learning activities is described, and appendixes giving teacher background information

and listing references and teaching resources are provided (DT)

SE 017,210

Sights and Sounds 4-6. Kentucky's Environmental Education Program.

Kentucky State Dept of Education, Frankfort. Div of Program Development.

Pub Date (73) Note-80p.: See SE 017 209 for another unn in

this series Price MF-50.75 HC-54.20 PLUS POSTAGE

Descriptors—Behavioral Objectives, Curriculum.
*Elementary School Science. *Environmental Education, Instruction, Instructional Materials, Science Education. *Teaching Guides. Units of Study (Subject Fields)

*Kentucky Environmental Identifiers-KEEP. **Education Program**

This unit of instruction for grades 4-6 is one of a series of cutticulum units referred to as the Interdisciplinary Unit. Its purpose is to allow the individual teacher to expose the students to manyexperiences, ideas, and applications based on their environment (in this case, Kentucky). Each lesson is bill on two basic, concepts, each balancing the other. One concept is a positive statement and the other, its opposite. Behavioral objectives are given for each lesson. Each lesson is developed in a three part sequence—showing, discussing, and applying the ideas and concepts of that lesson. The unit is considered as a model, on which to build and expand, both for teachers and students. The basic concepts for this unit include those related to sights and sounds as they affect the quality of the environment. (EB)

ED 093 673 lamason, Barry W.

Living Within Our Means: Energy and Scarcity. Environmental Education Instructional Activi-

New York State Education Dept, Albany. Office of Instructional Services,

Pub Date (74) Note—83p. EDRS Price

MF-\$0.75 HC-\$4.20 POSTAGE

POSTAGE
Descriptors—Activity Learning, *Elementary
Grades, *Environmental Education, *Instructional Materials, Language Arts, Mathematics,
*Objectives, Sciences, Social Studies. *Teaching Gurdes

This booklet is a source of activities and in-structional materials for teaching environmental education concepts in grades K-6 Contents are creanized into the areas of language arts, mathematics, science, and social studies and are subdiwided by suggested grade level. A listing of basic environmental understandings is referenced with the various activities. (LS)

ED 097 219 88 SE 018,227 Planning for the Future on-Spaceship Earth Environmental Ecological Education Project.
Revised. Revised.

Patkway School District, Chesterfield, Mo Spons Agency—Bureau of Elementat ons Agency-Bureau of Elementary and Secondary Education (DHEW/OE). Washing-

ton. D.C. Pub Date Jun 72

Note-73p. EDRS Price MF-50.75 HC-53.15 PLUS POSTAGE

POSTAGE
Descriptors—*Conservation Education, Curricusium Guides, *Ecology, *Environmental Education, Instructionel Materials, Interdisciplinary Approach, *Intermediate Grades, Learning Activities, Natural Resources, Teaching Guides, Units of Study (Subject Fields).
Identifiers—Elementary Secondary Education Act Title-III, ESEA Title-III.

This unit, designed for upper elemontary school students, examines the role of the individual in scorety, in determining the status of the environ-ment. Viewing the earth as an ecosystem, it looks at past and present human events that have in-fluenced the quality of the environment and astempts to provide students with an awareness of the knowledge necessary to plan for the future. Seven general ecological concepts are presented for use with the cotal group. There is an additional group of concepts that are suggested for in-

dividual projects with such topics as major forms of government, farming methods, educational derstanding of how these factors influence human life and the environment. The unit includes the behavioral objectives and the expected student enteria for evaluation, protests and posttests, suggested methodologies for teaching each concept. suggested student data sheets, and a bibliography. of both teacher and student resources, (MLB)

ED 097 221 SE 018 229 88 The Living Forest, Environmental Ecological Edu-

eation Project. Revised. Parkwas School District, Chesterfield, Mo.

Spons Agency-Bureau of Elementary and Secondary Education (DHEW/OE), Washington. D C

Pub Date Jun 72

vote-68p EDRS Price MF-50.75 HC-53.15 PLUS **EDRS**

Descriptors—Biology, *Gonservation Education, *Curriculum Goides, *Ecology, Elementary School Science, *Environmental Education, *Forestry, Instructional/Materials, Intermediate Grades, Learning Activities, Natural Resources, L'nits of Study (Subject Fields)

Identifiers — Elementary Secondary Education Act
Title III AESEA Title III'

This unit, designed for intermediate grades of elementary schools. focuses on the living forest by Presenting such concepts as succession, forest communities, adaptation, ecological interrelationships; animal populations, the impact of man on forests, and 100 opportunities in the forest indus-The unit includes the behavioral objectives and the expected student enteria for evaluation. pretests and posttests, suggested methodologies for teaching each concept, relevant background information, suggested student data affects, and a bibliography of both student and teacher resources. (MLB)

FO 099 216 95 ∿ SE 018 289 Multidiselplinary Process Curriculum in Environmental Education, Grade I. Edmonds School District 15, Lynnwood, Wash

Spons Agency-Diffice of Education (DHEW).

Washington, D.C. Pub Date 73

Grant-QEG-0-72-5436

Note-135p. EDRS Pric DRS Price POSTAGE MF.\$0.75 HC:\$6.60

Descriptors—*Conservation Education, *Curneu-lum Guides, *Elementary Education, *Environmental Education, Field Trips, Grade I, Instructional Materials. Learning Activilies. Outdoor Education Primary Education. *Science

Education, Teaching Guides

This first grade curficulum guide is based on a multidisciplinary approach to environmental education. The guide includes activities, guidelinea for field trip planning and a resource section. The guide deals with the subjects of animals, air. water, and litter Each subject section includes accuvities based on the physical characteristics, man's use, and man's misuse of the subject. These activities may be used individually or in sequence, and aim to promote the development of Positive attitudes toward the environment. Each activity lesson provides the teacher with obteacher background information. materials list, a preactivity, the activity, a postactivity, supplemental activities, and illustrations in-tended for copying Guidelines for conducting # field top are included to facilitate the teacher in teaching in the our-of-doors. The guidelines tower pre-field trip, field trip, and post-field trip planning. A resource section includes speakers. films, free and metpensive materials, pamphlets. and conservation and environmental groups which may be contacted for information on environmental topics (TK)

SE 018 290 95 A Mullidisciplinary Process Curriculum in En-

vironmental Education, Grade 2.
Edmonds School District 15, Lynnwood, Wash
Spons Agency—Office of Education (DHEW) Washington, D.C.

Pub Date 73 Grant - DEG-0-72-5436

Note-147p. EDRS MF-\$0.75 HC-\$6.60 PLUS Price

POSTAGE
Descriptors—*Conservation Education. *Curricus lum Guides, *Elementary Education, *Environ-mental Education, Field Trips, Grade 2, Instructional Materials. Learning Activities, Natural Resources, Outdoor Education, "Science Education, Teaching Guides

This second grade autificulum guide is based on a moltidisciplinary approach to environmental education. The guide includes activities, guidelines for field trip planning, and a resource section. The guide deals with the subjects of plants, soil, and litter Each sobject section in-cludes activities based on the physical charactenstics, man's use, and man's misuse of the subject. Activities may be used individually or insequence, and atm to promote the development of positive attitudes toward the environment Each activity provides the teacher with objectives, teacher background information, a materials list, a preactivity, the activity, a postactivity, supplemental activities, and illustrations intended for copying Guidelines for conducting a field trip are included so facilitate the teacher in teaching in the out-of-doors. The guidelines cover pre-field trip, field trip, and post-field trip planning A resource section includes speakers, films, free and inexpensive materials, pamphiets, and conservation and environmental groups which may be contacted for information on environmental top-

ED 099 218 SE 018 291 95 A Moltidisciplinary Process Curriculum in Environmental Education, Grade 3. Edmonds School District 15, Lynnwood, Wash

Spons Agency—Office of Education (DHEW), Washington, D.C. Pub Date 73

Grant_OEG-0.72.5436 Note_111p. EDRS Price MF-S0 MF-\$0.75 HC-\$5.40 PLUS POSTAGE

Descriptors - *Conservation Education. *Currieulum Guides. Elementary Education. Emviron-mental Education. Field Trips. Grade 3. In-structional Materials. Outdoor Education. Primary Education. *Science Education, Teaching

This environmental correction guide to designed for teacher use in the third grade A multidisciplinary. cullection ыf activities. guidelines for conducting tield trips. resource section are included. The activities are organized within three categories—awareness, man's use, and problem solving They are designed to provide the student with opportunities to make observations, writest and record data, interpret the data, and summarize The use of these activities, either individually or in equence, aims to establish a elimate of pupil participation, discussion, and interaction Each acgivity is classified by topic, subject, completion time, and grade level. All activities include, objectices, a materials hat, teacher background information, a preaction, the act, ity, a postactivity, and additional activities. Guidelines for conducting a field trip are included to facilitate the teacher in teaching her Students in the out-ofdoors. The guidelines cover profield trip, field trip, and post-field trip planting. The resource section lists speakers, films, fix a and inespensive materials. Pamphlets, and equiversation and environmental groups which may be contacted for information about environmental topics (TK)

ED⁽099-219 95 SE 018 292 A blultidisciplinary Process Curriculum in Environmental Education, Grade 4. Edmunds School District 15, Lynnwood, Wash

Spons Agency—Office of Education (DHEW). Washington, D.C. Pub Date 73

Grapht - OEG-0-72.5436

Note-118p. EDRS Price MF-30:75 HC-35:40 PLUS POSTAGE

Desgriptors - *Conservation Education. *Curricucal Resources. Outdoor Education. *Science Education, Teaching Guides

This environmental education curriculum guide is designed for teacher, use in the fourth grade. A collection of multidisciplinary activities, guidelines for conducting field trips, and a resource section are included. The activities are organized within three categories awareness, man's use, and problem solving They are designed to provide the student with opportunities to make observations, collect and record data, interpret the data, and, summarire. The ose of these activities, either individually or in sequence, aims to establish a climate of pupil participation, discussion, and interaction Each activity is classified by topic, subject, completion time, and grade level. Alt activities include, obpeetises, a materials list, teacher background in-formation, a preactivity. The activity, a postactivity, and additional activities. Guidelines for con-ducting a field trip are included to facilitate the teacher in teaching her students in the out-ofdoors. The guidelines cover pre-field trip, field trip, and post-field trip planning. The resource section lists speakers, films, free and inexpensive materials, pamphlets, and conservation and environmental groups which may be contacted for information about environmental topies, (TK)

ED 099 220 95 SE 018 293 A Multidisciplinary Process Corriculum in Enstronmental Education, Grade 5.

Edmonds School District (5, Lynnwood, Wash Spons Agency-Office of Education (DHEW). Washington, D.C.

Pub Date 73 Granx-DEG/0-72.5436 Note -144p.

EDRS Price MF.50.75 HC-56.60 POSTAGE

Descriptors—"Conservation Education. "Currieu-lum Guides. "Elementary Education. "Environ-mental, Education. Field Trips. Grade S. In-structional Materials, Learning Activities. Naturai Resources, Outdoor Education. *Science Education. Teaching Outdos
This environmental curriculum guide is designed for teacher use in the fifth grade A col-

lection of multidisciplinary activities, guidelines for conducting field trips, and a resource section are included. The activities are organized within three eategones--awareness, man's use, and problem solving. They are designed to provide the student with opportunities to make observations, collect and record data, interpret the data. and summarize. The use of these activities, either individually or in sequence, aims to establish a elimate of pupil partierpation, discussion, and in-teraction. Each activity is classified by topic, subject, completion time, and grade level. All activities include objectives, a materials tist, teacher background information, a preactivity, the activi-ty, a post activity, and additional activities Guidelines for conducting a field implace ineloded to facilitate the teacher in teaching her students in the out-of-doors. The guidelines cover pre-field trip, field trip, and cost-field trio planning. The resource section lists speakers, films, free and inetpensive materials, pamphivits. and conservation and environmental groups which may be contacted for information about environmental topics, [TK)

95 ED 099 221 SE 018 294 -Multidisciplinary Process Curriculum in Environmental Education, Grade 6.

Edmonds School District 15, Lynnwood, Wash Spons Agency-Office of Education (DHEW).

Washington, D.C.

Pub Date 73 Grant-OEG-0-72-5436

Note-157p Price NIF.\$0.75 HC-\$7.80 PUSTAGE

Guidea

This environmental eurriculum lum Guides. *Elementary, Education. *Environ- designed for teacher use in the sisth grade. A commental Education, field Trips, Grade 4. In- lection of multidisciplinary activities, guidelines structional Materials, Learning Activities. Natural for conducting field trips, and a resturce section are included. The activities are organized within

three categories-awareness, man's use, and problem solving They are designed to provide the student with opportunities to make observations, collect and record data, interpret the data, and summanie. The use of these activities either individually or in sequence aims to establish a climate of pupil participation. discussion, and in teraction Each activity is classified by topic, sub-ject, completion time, and grade level. All activi-ties include objectives, a materials list teacher the actual of the second of th to facilitate the teacher in teaching her students in the out of doors. The guidelines cover pre-field trip, field trip, and post field trip planning. The resource section lists speakers, films free and inexpensive materials, pamphlets, and conservation and environmental groups which may be con-tacted for information about environmental top-

ED 100 654 22 SE 018 345

Grade Two, Environmental Education Guide.
Project I-C-E. Green Bay, Wis.
Spons Agency—Bureau of Elementary and
Secondary Education (DHEW.OE). Washington, D.C.; Wisconstn State Dept. of Education.

Madison.
Pub Date [74],
Note... 105g.
EDRS Price

MF-\$0.75 HC-\$5.40 PLUS POSTAGE

Descriptors- Conservation Education, "Elemen-Education. *Environmental Education. Grade 2. Instructional Materials, Interdisciplinary Approach, Learning Activities, "Natural Resources, Outdoor Education, Science Education, *Teaching Guides

Identifiers—Elementary Secondary Education Act
Title III. ESEA Title III. *Project I C E
This second grade environmental education
guide is one of a series of guides, K-12, which were developed by teachers to help introduce engronmental education into the total curriculum. The guides are supplementary in design, it is the teacher's decision when the concepts, objectives. activities, and resources may best be integrated into the existing classroom curriculum. This guide contains a series of episodes (minilesson plans), each having a number of suggested in- and out-of-class learning activities. The episodes are built around 12 major environmental concepts that form a framework for each glade or subject area, as well as for the entire K-12 program. Although the same concepts are used throughout the K-12 program, emphasis is placed on different aspects of each concept at different grade levels. The accord grade guide focuses on aspects such as graphs, personal responsibility, simple machine-fuels, and land use. Each of the 12 concepts is covered in one of the episodes contained in the guide. Further, each episode offers subject area integration, subject area activities, interdisciplinary activities, cognitive and affective behavioral objectives, and suggested references and resource materials useful to teachers and students. An appendix containing related game is included. (Author/TK)

ED 100 655 SE 018 346 88 Grade Three, Environmental Education Guide. Project I-C-E, Green Bay, Wis

Spots Agency—Bureau of Elementary and Secondary Education I DHEW/OE). Washing-ton, D.C., Wisconsin State Dept. of Public Instructión, Madison.

Pub Date [74] Note—121p.

Price MF-\$0.7\$ HC-\$5.40 PLUS POSTAGE

Descriptors— Conservation Education: Education tary Education, Environmental Education. Grade 3. Instructional Materials. Interdisciplinary Approach. Learning Activities, "Natural Resourges, Outdoor Education, Setence Educa-

tion, Teaching Guides Identifiers—Elementary Secondary Education Act Title III, ESEA Title III *Project I C E

This third grade environmental education guide is one of a series of guides, K-12, that were developed by teachers to help introduce environmental education into the total currectium. The suides are supplementary to design, it is the teacher's decision when the concepts, objectives, activities, and resources may best be integrated into the existing classroom europulum. This guide contains a series of episodes (mini-lessons), each having a number of suggested in and out-of-class learning activities. The episodes are built around 12 major environmental concepts that form a framework for each grade or subject area, as well as for the chitte K.12 program Although the same concepts are used throughout the K.12 pro-gram, emphasis is placed on different aspects of each concept at different grade levels. The third grade guide focuses on aspects such as food/clothing/shelter. family and roles, water quality, desert regions, and sound. Each of the 12 concepts is covered in one of the episodes contained in the guide. Further, each episode offers subject area integration, subject area activities. interdisciplinary activities, cognitive and affective behavioral objectives, and suggested references and resource materials useful to teachers and students. An appendix containing related games is included. (Author/TK)

ED 100 656 88 SE 018 347 Grade Four, Environmental Education Guide.

Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE), Washington, D.C.: Wisconstn State Dept. of Education. Madison.

Pub Date [74] Note — I ISp. EDRS: Price

Price MF-\$0.7\$ HC-\$5,40 PLUS POSTAGE

Descriptors—Conservation Education, "Elementary Education, "Environmental Education, Grade 4. Instructional Materials, Interdiscipli-

Grade 4. Instructional Matenair, Interdisciplinary Approach. Learning Activities. "Natural Resources, Outdoor Education, Science Education, "Teaching Guides
Identifiers—Elementary Secondary Education Act Title. ESEA Title III. "Project I C E
This fourth grade environmental education guide is one of a series of guides, K-12, which were developed by teachers to help introduce environmental education." vironmental education into the total curriculum. The guides are supplementary in design, it is the teacher's decision when the concepts, objectives, activities, and resources may best be integrated into the existing classroom curriculum. This guide contains a series of episodes liminifessons), each having a number of suggested in and out-of-class learning activities. The episodes are built around 12 major environmental concepts that form a 12 major environmental concepts that form a framework for each grade or subject area, as well as for the entire K-12 program. Although the same concepts are used throughout the K-12 program, emphasis to placed out different aspects of each concept at different grade levels. The fourth grade guide focuses on aspects such as soil and organisms, water purification, poerty, and design. Each of the 12 concepts is covered in one of the episodes contained in the guide. Further, each episode offers tublect area integration, subject area activities, interdisciplinary activities, cognitive and affective behavioral objectives, and suggested references and resource materials useful to teachers and students. An appendix containing related games is included. (Author/TK)

88 SE 018 348

Grade Five, Environmental Education Guide.
Project I-C.E. Green Bay. Wis
Spons Agendy—Bureau of Elementary and
Secondary Education (DHEW OE), Washington, D.C.; Wisconsin State Dept. of Education. Madison.

Pub Date (74)

Note-146p. EDRS Price Price MF-\$0.75 HC-\$6.60 PLUS POSTAGE .

Destriptors... *Conservation Education. *Eiemen-tary Education. *Environmental Education. Grade 3. Instructional M4terials, Interdisciplinary Approach, Learning Activities, "Natural Resources, Outdoor Education, Science Education. * Teaching Guides

Identifiers-Elementary Secondary Education Act
Title III. ESEA Title III. *Project I C E

This fifth grade environmental education guide is one of a series of guides. K-12, which were developed by teachers to help introduce environmental education into the total curriculum. The guides are supplementary in design, it is the teacher's decision when the concepts, objectives. activities, and resources may best integrated into the existing classroom curriculum. This guide contains a series of episodes (minilessons) each having a number of suggested in and out-or-class learning activities. The episodes are built around 12 major environmental concepts that form a framework for each grade or subject area, is well as for the entire K-12 program. Although the same concepts are used throughout the K-2 program, emphasis is placed on different aspects of each concept at different grade levels. The fifth grade guide focuses on aspects such as sun, energy, ecosystems, industrial growth, speech, and urban aesthetics. Each of the 12 concepts 15 covered in one of the episodes contained in the guide. Further, each episode offers subject area integration, subject area activities, interdisciplina. ry admittes, cognitive and affective behavioral objectives, and suggested references and resource materials useful to teachers and students. An appendix containing related games is included.
(Author/TK)

ED 100 658 SE 018 349

Grade Six. Environmental Education Guide.
Project I-C.E. Green Bay. Wis
Spons Agency—Bureau of Elementary and
Secondary Education I DHEW/OE). Washington. D.C., Wisconsin State Depr. of Education. Madison.

Pub Date [74] Note-106p.

Price MF-\$0.7\$ HC-\$5.40 PLUS POSTAGE

Descriptors - "Conservation Education, "Elemen. tary Education, "Environmental Education. Grade 6. Instructional Materials, Interdiscipii. nary Approach. Learning Activities. Nutural Resources. Outdoor Education. Science Educa-*Teaching Guides

identifiers—Elementary Secondary Education Act
Title III. ESEA Inte III. *Project I C E
This sixth grade environmental education guide
is one of a series of guides. K-12. which were developed by teachers to help infroduce environ. mental education into the total curriculum. The guides are supplementary in design, it is the teacher's decision when the concepts, objectives. activities, and resources may best be integrated into the existing classroom curriculum. This guide contains a senies of episodes (minitessons), each learning a number of suggested in- and out-of-viasa learning activities. The episodes are built around the major environmental concepts that form a framework for each grade or subject area, as well as for the entire k-12 program. Atthough the same concepts are used throughout the N.12 program, emphasis is placed on different aspects of each concept at different grade levels or in dit. ferent subject areas. This guide focuses of aspects such as energy, air-graphing, natural resources, and a political convention tomed environmental Each of the 12 concepts is covered in one of the episodes contained in the guide, Further, each episode offers subject area integration, subject area activities, interdisciplinary ac-tivities, cognitive and affective behavioral objectives, and suggested references and resource materials useful to teachers and students. An appendix containing related games is included. (Author/TK)

ED 100 665 88 SE 018 356 Language Arts 7-8, Environmental Education Gulde.

Project I-C.E. Green Bay. Wis Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE). Washington, D.C.: Wisconrin State Dept. of Education.
Madison.

Pub Date [74] Note—75p. EDRS Price

MF.\$0.75 HC-\$4.20 PLUS POSTAGE

POSTAGE
Descriptors—"Conservation Education, "Environmental Education, Instructional Materials, Interdisciplinary Approach, "Language Arts,
Learning Activities, Natural Resources, Out-

door Education. Science Education. Secondary Education, Teaching Guides
Identifiers—Elementary Secondary Education Act
Title III. ESEA Title III. *Project I C E

This language arts guide, for use in grades 7 and 8, is one of a series of guides. K-12, that were developed by teachers to help introduce enfronmental education into the total curriculum The guides are supplementary in design, contain. ing a series of episodes (minitessons) that relate various skills (reading, writing; listening, and speaking) to environmental concepts. The episodes are built around 12 major environmental concepts that form a framework for each grade to subject area, as well as for the entire K-12 program. Although the same concepts are used throughout the K-12 program, emphasis is placed on different aspects of each concept at different grade levels or in different subject areas. This guide focuses on aspects such as discussion, creative writing, and role playing. The 12 concepts are covered in one of the episodes contained in the guide Further, each episode offers subject area integration, subject area activities, inter-disciplinary activities, cognitive and affective behavioral objectives and suggests references and resource materials useful to teachers and students. (Author/TK)

SE 018 359 88 Mathematics 7, Environmental Education Guide. Project I-C.E. Green Bay. Wis. Spons Agency-Bureau of Elementary an

Secondary Education (DHEW/OE). Washington, D.C. Wisconsin State Dept. of Education. Madison

Pub Date [74] . Note - 44p.

EDRS Price MF-\$0.75 HC-\$1.85 PLUS POSTAGE

Descriptors-Conservation Education. *Environmental Education. Grade 7. Instructional Materials, Interdisciplinary Approach. Learning Activities. "Mathematical Applications, Mathematics Education, Natural Resources, Outdoor Education. Science Education. Secondary Education. "Secondary School Mathematics. Teaching Guides

Identifiers-Computation. Elementary Secondary

Education Act Title III, ESEA Title III. "Project I C E, Proportion
This seventh grade mathematics guide is one of a series of guides. K-12, that were developed by teachers to help introduce environmental educa-tion into the total curriculum. The guides are supplementary in design, containing a series of episodes (minitessons) that teinforce the relation. ships between ecology and mathematics. It is the teacher's decision when the episodes may best be integrated into the existing classroom cutriculum. The episodes are built around 12 major environmental concepts that form a framework for each grade or subject area, as well as for the entire K-12 program. Although the same concepts are used throughout the K-12 program, emphasis is placed on different aspects of each concept at different grade levels or subject levels. This guide focuses on aspects such as proportion, computa-tion, and percent. The 12 concepts are covered in one of the episodes contained in the guide. Further, each episode offers subject area integra-tion, subject area activities, interdisciplinary activities, cognitive and affective behavioral objectives, and suggested references and resource materials useful to teachers and students. (Author/TK)

SE 018 360 ED 100 669 88

Mathematics 8, Environmental Education Guide.
Project I.C.E., Green Bay, Wis.
Spons Agency—Bureau of Elementary and
Secondary Education (DHEW/OE). Washington, D.C.; Wisconsin State Dept. of Education. Madison

Pub Date [74]

Note-48p. EDRS Price MF.S0.75 PHC-\$1.85 PLUS POSTAGE

Descriptors-Conservation Education. *Environ. mental Education. Geometry. Instructional Materials. Interdisciplinary Approach. Learning Activities. "Mathematical Applications. Mathematics Education. Natural Resources. Outdoor Education. "Science Education. Secondary Education. Secondary School Mathematics, "Transhing Guider." *Teaching Guides

Identifiers-Computation. Elementary Secondary Education Act Title III, ESEA Title III. Pro-

This eighth grade mathematics guide is one of a series of guides. K-12, that were developed by teachers to help introduce environmental education into the total curriculum. The guides are supplementary in design, containing a series of episodes (minilessons) that reinforce the relationships between ecology and mainematics. It is the teacher's decision when the episodes may best be integrated into the existing classroom curriculum The episodes are built around 12 major environ-mental concepts that form a framework for each grade of subject area, as well as for the entire K-12 program. Although the same concepts are used throughout the K-12 program, emphasis is placed on different aspects of each concept at different grade levels or subject levels. This guide focuses on aspects such as radius, geometry, and average and percent. The 12 concepts are covered in one of the episodes contained in the guide. Further, each episode offers subject area integration, subject area activities, interdisciplinary activities, cognitive and affective behavioral objectives, and suggested references and resource materials useful to teachers and students. (Author/TK)

ED 100 686 88 SE 018 584 Art K-3, Environmental Education Guide. Project I-C.E. Green Bay, Wis.

Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE). Washington, D.C.: Wisconsin State Dept. of Public Instruction, Madison, Pub Date [74]

Nore-62p. Price MF-\$0.75 HC-\$3.15 POSTAGE

Desemprors—"Art Education. Conservation Edu-cation. "Elementary Education. "Environmental Education. Instructional Materials, Interdisciplinary Approach. Learning Activities. Natural Resources, Outdoor Education, Prima-ry Education, Science Education, *Teaching

Elementary Secondary Education Act Identifiers. Title III. ESEA Title III. Instruction Curriculum Environment. Project I.C.E

This art education guide, for use in grades K.3. is one of a series of guides. K-12, that were developed by teachers to help introduce environmental education into the total curriculum. The guides are supplementary in design, containing a series of episodes (minifessons) that are designed to wake students to sights of beauty and harmony in their environment. The episodes are built around 12 major environmental concepts that forms a framework for each grade or subject area, as well as for the entire K-12 program. Although the same concepts are used throughout the K-12 program, emphasis is placed on different aspects of each concept at different grade levels or in different subject areas. This guide focuses on aspects such as design in nature, kites, and block printing. The 12 concepts are covered in one of the episodes contained in the guide. Further, each episode offers subject area integration, subject area activities. interdisciplinary activities. cognitive and affective behavioral objectives, and suggested references and resource materials use. ful to teachers and students. (Author/TK)

ED 100 687 88 SE 018 585 -Art 4-6. Environmental Education Guide.

Project I-C-E. Green Bay. Wis.

Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE). Washing-ton, D.C.; Wisconsin State Dept. of Public Instruction, Madison.

Pub Date [74]

Note 74p. EDRS Price MF-\$0.75 HC-\$3.15 PLUS

Descriptors - "Art Education, Conservation Edu-cation, "Elementary Education, "Environmental Education. Instructional Materials. Inter-disciplinary Approach, Learning Activities, Natural Resources. Outdoor Education. Science Education, Teaching Guides

Identifiers—Elementary Secondary Education Act Title III. ESEA Title III, Instruction Curriculum Environment, Project I C.E

This art education guide, for use in grades 4-6, is one of a senes of guides, K.12, that were developed by teachers to help introduce environmental education into the total curriculum. The

guides are supplementary in design, containing a senes of episodes (minilessons) that are designed to wake students to sights of beauty and harmony in their environment. The episodes are built around 12 major environmental concepts that form a framework for each grade or subject area, as well as for the entire K-12 program. Although the same concepts are used throughout the K-12 program, emphasis is placed on differem aspects of each concept at different grade levels or in dif-ferent subject areas. This guide focuses on aspects such as shading, paper sculpture, and ceramic mosaic. The 12 concepts are covered in one of the episodes contained in the guide. Further, each episode offers subject area integra. tion, subject area activities, interdisciplinary activities, cognitive and affective behavioral objectives, and suggests references and resource materials useful to teachers and students. (Author/TK)

ED 100 693 88 SE 018 591

Mulic K-3. Environmental Education Guide.

Project I-C-E, Green Bay. Wis.

Spons Agency—Butcau of Elementary and
Secondary Education (DHEW/OE). Washington, D.C.; Wisconsin State Dept. of Public Instruction, Madison. Pub Date 1741

Note 47p. EDRS Price

MF-\$0.75 HC-\$1.85 PLUS POSTAGE

Descriptors-Conservation Education. *Elemen. tary Education. "Environmental. Education. Instructional Materials. Interdisciplinary Approach, Learning Activities, Music Education, Natural Resources, Outdoor Education, *Primary Education, *Creating Guides

Identifiers-Elementary Secondary Education Act Title III, ESEA Tule III. Instruction Curnculum Environment, "Project I C E

This music guide, for use in grades K-3, is one of a series of guides, K-12, that were developed by teachers to help introduce environmental education into the total curriculum. The guides are supplementary in design, containing a series of sodes (minilessons) that reinforce environmental concepts and theories by developing ecology-related aesthetic values. The episodes are built around 12 major environmental concepts that form a framework for each grade of subject area, as well as for the entire K-12 program. Although the same concepts are used throughout the K-12 the same concepts are used infoughout the K-12 program, emphasis is placed on different aspects of each concept at different grade levels or in different subject areas. This guide focuses on aspects such as creative movement, dramatizaton, and word composition. Most of the 12 concepts are covered in one of the episodes contained in the guide Further, each episode offers subject area integration, subject area activities. interdisciplinary activities, cognitive and affective behavioral objectives, and suggests references and resource materials useful to teachers and stu-depts. (Author/TK)

ED 100 694 88 SE 018 592

Music 4-6, Environmental Education Guide.
Project I-C.E, Green Bay. Wis.
Spons Agency...Bureau of Elementary and Secondary Education (DHEW/OE). Washington, D.C.: Wisconsin State Dept. of Public Instruction, Madison.
Pub Date [74]

Note—58p. EDRS Price MF-\$0.75 HC-\$3.15 PLUS POSTAGE

Descriptors-Conservation Education. * Elemen. Education, *Environmental Education, Instructional Materials, Interdisciplinary Approach, Learning Activities, "Music Education, Natural Resources, Outdoor Education, Science Education, "Teaching Guides Identifiers—Elementary Secondary Education Act Tale III, ESEA Title III, Instruction Curriculum

Environment. Project I C E

This music education guide, for use in grades 4.6, is one of a series of guides. K-12, that were developed by teachers to help introduce environmental education into the total curriculum. The guides are supplementary in design, containing a series of episodes (minilessons) that reinforce environmental concepts and theories by developing ecology-related aesthetic values. The episodes are

built around 12 major environmental concepts that form a framework for each frade or subject trea, as well as for the entire K-12 program. Although the same concepts are used throughout the K-12 program, emphasis is placed on different aspects of each concept at different grade levels or in different subject areas. This guide focuses on aspects such as music appreciation and listening. Most of the 12 concepts are covered in one of the episodes contained in the guide. Further, each episode offers subject atea integration, subject area activities, interdisciplination and affective behavioral ry activities, cognitive and affective behavioral objectives, and suggests references and resource materials useful to teachers and students.

ED 100 695 88 SE 018 593
Physical Education K-6, Environmental Education ED 100 695 SE 018 593 Guide.

Guide.

Froject I-C.E. Green Bay. Wis.

Spons Agency.—Bureau of Elementary and
Secondary Education (DHEW/DE), Washington, D.C.; Wisconsin State Dept. of Public Instruction, Madison.

Pub Date [74]

EDRS

Note—74p. EDRS Price MF-\$0.75 HC-\$3.15 PLUS

Descriptors—Conservation Education. *Elementary Education, *Environmental Education. *Instructional Materials. Interdisciplinary Approach, Learning Activities, Natural Resources. Outdoor Education. *Physical Education. Outdoor Education . *Physical Education, Science Education. *Teaching Guides Identifiers—Elementary Secondary Education Act

Title III. ESEA Tule Iti. Instruction Curneulum Environment. *Project I C E This physical education guide, for use in grades

K-6. is one of a series of guides, K-12, that were developed by teachers to help introduce environmental education into the total curriculum. The guides are supplementary in design, containing a series of episodes (minilessons) that focus on the growth of both mind and body, and the work these two must do to protect the environment. The episodes are built around 12 major environmental concepts that form a framework for each mental concepts that form a framework for each grade or subject area, as well as for the entire K-12 program. Although the same concepts are used throughout the K-12 program, emphasis is placed on different aspects of each concept at different grade levels or in different subject areas. This guide focuses on aspects such as tumbling dance, and cycling The 12 concepts are covered in one of the episodes contained in the guide. Further, each episode offers subject area integration, subject area netwites, interfuscingly as tion, subject area activities, interdisciplinary actwities, cognitive and affective behavioral objec-tives, and suggested references and resource materials useful to teachers and students. (Author/TK)

ED 101 941 SE 018 114 95 [East Syracuse-Minos Schools Environmental Education Materials, Middle School Package, Grade 6-Science and Social Studies.)

East Syracuse - Minoa Central Schools, East Syracuse, N.Y.

Spons Agency Office of Education (DHEW), Washington, D.C. Office of Environmental **Education**

Pub Date [73] Grant--OEG-0-71-4621

Note-100p.; Best copy available: occasional marginal legibility DRS Price MF-\$0.76 HC-\$4.43

FDRS PLUS POSTAGE

Descriptors-Conservation Education. fum Guides, *Ecology, *Elementary Education, *Environmental Education, Grade 6, Inter-disciplinary Approach, Natural Resources, Science Education, *Social Studies, Teaching Guides, Units of Study | Subject Fields f Identifiers—MACQS. Man A Course of Study

These two environmental education units were designed for use at the sixth-grade level. The first unit focuses on science and is a five-week study Which emphasizes ecology along a creek. The unit is designed around the idea that a creek and its surrounding area serve as a suitable focus for environmental study because they illustrate many ecological principles. The injectives, teaching strategies, materials, and evaluation techniques reinforce the basic creek theme. A flowehart, s, supplementary materials, illustrations.

tables, and maps are included. The second unit, a social atudies unit, illustrates the environmental concepts which are inherent in the program Man A Course of Study (MACOS) and are designed to be used in conjunction with the MACOS program. The unit is developed around three environmental generalizations, interdependency, adaptation, and recycling Objectives, activities and strategies, materials, and evaluation techniques are identified for each generalitation The unit also contains a flowchaft to help the teacher cooldinate the unit and MACOS program, quizzes, vocabulary words, and graphs. (TK)

SE 018 117 ED 101 944 95 (East Syrucuse-Minon Schools Environmental Eduestion Materials, Middle School Package, Mid-dle School Crossover Units.

East Syracuse - Minoa Central Schools, East

Syracuse, N.Y.

Spons Agency—Office of Education (DHEW).

Washington, D.C. Office of Environmental Education.

Pub Date [73] Grant--- OEG-0-71-4621

Note-160p., Best copy available: occasional

EDRS POSTAGE

Descriptors-Conservation Education, *Curriculum Guides, *Environmental Education, *Interdisciplinary Approach. Language Arts. Learning Activities, Mathematics Education, Middle Schools, Natural Resources, Outdoor Educa-tion, Science Education, *Secondary Educa-tion, Social Sciences, Social Studies, Units of Study (Subject Fields)

This interdisciplinary series of five environmental aducation units is designed for teacher use at the middle school levet. The two crossover units are designed to span a period of six to eight weeks at the beginning of the eighth grade. Each unit is developed around several organizing ideas or concepts, objectives, activities and strategies, materials, and expected outcomes are identified for each idea or concept. The first unit involves a social studies to science crossover and locuses on environmental aspects of the community The science to social studies crossover unit takes a bitef scientific look at the environment of a parlieular community. The Language Arts Skills unit focuses on research skills, pertinent to environmental investigations and communications such as outlining, editing, writing, and indexing. The Mathematics Skills unit, designed for wide ranges of ability, includes such activities as mapping. graphing, and data collection. Outdoor Education in Camping and Other Activities includes objectives, goals and activities, and evaluation enteria for outdoor education expenences plus guidelines teaching relationships and environmental health and disease. Appendixes are included with çach untt. (TK)

ED 103 242 SE 018 523 Nature's Part In Art, An Environmental Investigation.

Minnesota Environmental Sciences Foundation. Inc., Minneapolis.; National Wildlife Federation, Washington, D. C.

Pub Date 72

Note-20p.: Related documents are SE 018 514.

Available from-National Wildlife Federation. 1412 16th Street, N.W., Washington, D.C. 20036 (Order No. 79178, \$1 50) DRS Price MF-\$0.76 HC-\$1.58 PLUS EDRS

POSTAGE Descriptors-*Art Education, Elementary Educa-

tion. Elementary Grades, *Environmental Education, Instructional Materials, Investigations. *Learning Activities, Natural Resources, *Science Education, Teaching Guides This etivitonmental unit is one of a series

designed for integration within the existing cur. riculum. The unit is self-confirmed, requiring little teacher preparation. The philosophy of the units is based on an esperience-oriented process enenurating self-paced independent student work In this unit, elementary school children explore the use of natural items for att projects. As they collect these items, the students have an opportunity to observe and expenence their environment The art activities include work with plant dyes, printings, collages, contemperes, terranums, sand easting, mobiles, sand and soil paintings, and died plant arrangements. In many cases, there is an attempt to relate an an experience to a science experience Included in the unit is a list of materials needed and directions for the 27 art projects. (MA)

SE 017 747

Schroeder, Flurence Thompson, Benjamin An Encironmental Education Resource Activity Kit for Fifth and Sixth Grade Pupils. Eau Claire Area Public Schools, Wis.

Note-102p. The activity eards in the kit have been reproduced on \$ 1/2 x 11 paper with the permission of the author

Available from-Eau Claire Area Public Schools, 1222 Mappu Street. Eau Claire. Wisconsin 54701 Attn. Mr. Warren Randall (\$20.00 for

actual kit containing 5 x 8 activity cards)
EDRS Price MF-50.76 HC-\$5.70 PLUS POSTAGE

Descriptors-*Conservation Education. *Elementary Education. "Environmental Education. Grade 5. Grade 6. "Instructional Materials. Learning Activities. Natural Resources. Out. doon Education, Resource Units, Science Education, *Teaching Guides, Unit Plan

This environmental education resource activity kit provides an open-ended structure for fifth. and sixth-grade pupils to pursue the study of environmental topics and problems. The design of the kit concentrates on nine types of learning activities (called encounter activities) to enable oupils to learn about the natural resources, the biophysical environment, and the cause-effect relationships in the environment. The encounter activities provide diversified learning modes in addition to various strategies that involve social. scientific. political, legal. cconomic and managerial skills and knowledge Each of the en. counter activities-librar) research, field research. investigations, environmental projects, surveys of environmental problems, social awareness, environmental political action environmental action groups, and eareers related to the covironment... has numerous activity eards which in most eases suggest an environmental topic and a problem to study Environmental encounter activity contracts study Environmental encounter activity contracts provide guidance and direction for the publishing. Contracts the contract evaluation forms also accompany the contracts. This kit contains the procedures for the use of the activity eards, the contracts, the contract evaluation forms, and all needed materials. (TK)

SE 016 964 ED 106 057 Rat Control Lesson Plan for Fourth. Fifth and Sixth Grades.

Sixth Grades.

Media Learning Corp., Rochester, N.Y.

Spons, Agency—Manroe County, Health Dept.,

Ruchester, N.Y., New York, State Dept. of

Health, Albany Publicate [73]

Note—26p EDRS Price

MF-\$0.76 HC-\$1.9≰ PLUS POSTAGE Descriptors-Community Involvement, Flements.

ry Education. *Elementary Gradec. *Environment, Instructional Materials, Lesson Plans, Public Health, *Rats, Science Education, Slums, *Teaching Guides, *Uthan Encironment Identifiers -- Pests, Vermin

This teacher guide was deceloped to assist teachers of elementary children in their prepara-tion to teach some lessons on rat control. The overall objection include determining the level of student understanding about rate, deceloping etu-dent attitudes toward rate, deceloping the atudente abilité le réchité the rate weapons, idente foing these iteme that rate must have its lice, identifying specific act which educate are able to understand to get rid of rate, discriminating between iteme rate will cat and iteme they can not dot identifying and correcting fall canditions in the neighborhood communicating the es-istence of a rat control problem to the parental group and temforeing and testing of the averall program. The plan development includes negrall objections, spesific objectives.

support maketials, and learner procedures. responses and conclusion. A positiest and corection key conclude this fewori plan (BT)

ED 106 087 SE 018 504

Valuing the Environment, Elementary, Charlotte-MecLienburg Public Schools, Charlotte,

NC Spons Agency-North Carolina State Dept of Public Instruction, Ruleigh Div of Develop-

* ment. Pub Date [74]

Note-67p. A large portion of the test is printed on elegaly Price on colored paper and may not reproduce

MF-\$0.76 HU-\$3.32 PLUS **EDRS**

Descriptors—Conservation Education. *Elementary Education. *Environmental Education. "Instructional Materials Learning Activities.

*Natural Resources. Outdoor Education.

Science Activities. Science Education. Urban
Environment. *Values

Identifiers—Value Clarification Strategies

This guide was developed for use in grades K-6 as an enrichment program based on characting The program, designed by teachers aims values values the program, designed of feathers and to decelop in the student a greater awareness and understanding of the community, themselves and the earth. The program includes environmental encounters and a chart of topical themes and conceptual themes. Topical themes lead teachers and students through main areas of awareness. Plants and Animals, Water Air, Energy, Natural Resources, Land Use and Aestheties, and Pollution. The esinceprual schemes under each area of awareness increase in complexity according to the development level of the students. The activities in the encounters are action-ariented, studenticentered activities which provide "handson" learning experiences. Fach encounter provides background intermation, behavioral objectives, activities, a resource reference listing, and alue elanfication strategies. Value elanfication trategies are included because the decelopment of attitudes and a lifestyle compatible to the natural environment is related to environmental awateness, understanding decicion-making, and action. Instructions for use of the value clarification strategies contained in the program are ineluded (TK)

ED 113 214

Man's Effeet on the Environment, Teneber's Guides Environmental Education Unit, Sixth Grade Science. Little Rock School District, Ark.

Pub Date [74]

Note—85p. Not available in hard copy due to marginal legibility of original document, For telated documents, see SO 008 428, c29, and 652

EDRS Price MF \$0.76 Plus Postage. HC Not Available from EDRS.

Descriptors-Curriculum Guides, *Ecology, Ele-

mentary Education. "Environmental Education, Field Trips. Grade 6, Interdneiplinary Approach, Learning Activities. "Local Isrues, Pollution, Population Education. "Science Education, Short Courses, "Social Studies Units, Studies dent Centered Curriculum. Technology Identifiers - Environmental Education Project.

ESEA Title III

Part of a sequential teries of curriculum units in environmental education for grades 4 through 12, this sixth grade curriculum guide focuses on man's effect upon the environment Extensive elassroom activities and field trips introduce the student to population, technology, poliution, natural resources, responsibility, career opportunities, and an urban encounter field trip in which students investigate various types of pollution in their own community. The following components are included in the unit: an overview, major concepts. behavioral objectives, daily schedule, lesson plans for classroom activities and field tript. cafeer apportunities in environmental education. prefest and postfest, and student and feacher evaluation forms. The unit requires three weeks of class time, is multidisciplinary in nature, and is atructured around student-centered activities in which emphasis is placed upon the study of the local environment. (Author//R) ED 114 268 SE 019 340 Euston Carol

Better Place to Be. A Guide to Environmental Learning in Your Classroom.
Department of the Interior. Washington, D.C.

Pub Date [75]

Note—43p. Available from—SuperIntendent of Documents.

Available from Superintendent of Documents, U.S. Government Printing Office. Washington, D.C. 20402 (Stock No. 2400-00805, \$1.25). EDRS Price MF-\$0.76 HC-\$1.95 Plus Postage Descriptors...Air Pollution Control, "Ecology. "Elementary Grades, Energy Conservation," Instructional Materials, Interdisciplinary Approach, Learning Activities, Resource Materials, "Science Education, Water Pollution Control lont

This booklet, designed for elementary teachers, contains ideas for involving students in firsthand expenence with their environment and practical suggestions for preservation and improvement of their own homes and neighborhoods. The goals of this booklet are to increase environmental awareness and to help the students become responsible citizens. Among the topics discussed are: Environmental Learning in Your Classroom; Getting Started: Ecosystems and Classroom; Getting Started: Ecosystems and Classroom Activities; Environmental Problems and Activities; Environmental Learning and the Total Curriculum; School Site Development, Family Participation. Schoolwide Programs, and Awards and Recognition. tion A listing of environmental organizations, materials and sources, suggested readings and audiovisual aids concludes this booklet. (BT)

SE 019 335

Willink, Westey H Bennett, Dean B

Environmental Education Teacher's Guide: Composite K-6.

Maine Environmental Education Project, Yar-

Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE), Washington, D.C. Pub Date 75

Note-210p; For related documents, see SE 019 332-334; Occasional Marginal Legibility Available from-Maine Environmental Education

Project, Intermediate School, Yarmouth, Maine 04096 (free) EDRS Price MF \$0.83 HC-\$11.37 Plus Postage

Descriptors.—Concept Formation. "Curriculum Guides. "Elementary Grades. Environment. "Environmental Education, Field Trips. Instructional Materials. "Learning Activities. "Teaching Guides

Identifiers-Elementary Secondary Education Act

Title III, ESEA-Title III

This Environmental Education Teacher's Guide, developed for use at the K-6 level, is Environmental Education designed to familianze reachers with how an environmental education program can help in their toaching and in achieving the goals of the school. This program focuses on developing attitudes towards study environments and associated environmental problems. The study environments have been selected to provide a means of espanding the scope and complexity of understandings. At the kindergartenigrade one level, the school environment is emphasized; grades two and three. the neighborhood, grades four and five, the com-munity, and grade six, the region. The guide is di-sided into three sections. Section 1, The Big Ideas, contains major concepts and attitudes, teaching roles and student skills, process teaching examples, and general concept emphasis. Section, II. Examples of Activities and Pre-Post Tester contains core experiences, concepts, and pre- and post-tests for kindergarten through grade six Section III. Other Useful Information, includes information on planning and conducting field terps, enteronmental evaluation and identification of improvement opportunities, evaluation of the Man-Made Environment and environmental problem-solving and improvement activities (BT)

Environmental Education, Energy . Transportation, Grades K.S.

New Jersey State Council for Environmental Edu-

eation. Upper Montelair.

Spons Agency-Butcau of Elementary and Secondary Education (DHEW/DE), Washington, D.C.

PV Date (751

Grant... OEG.0-71-1754(290)

Note—55p. For related documents, see SE 020 264 and SE 020 739; Not available in hard capy due to marginal legibility of original docu-

EDRS Price MF-\$0.83 Plus Postage, HC Not Available from EDRS.

Available from Education. *Elementary Schization. *Energy Conservation. *Environmental Education. *Instructional Materials. Interdisciplinary Approach. *Learning Activities, Natural Resources, Resource Materiais. Science Education

Identifiers—Elementary Secondary Education Act
Title III, ESEA Title III

The activities in this publication are taken from one of the thirteen units comprising the "En-vironment and the Quality of Life" series in New Jersey. This book is one of three containing energy-related student activities at various grade levels. The topic of this particular book is energy transportation. The activities correspond to a number of behavioral objectives and are further grouped according to autability for pupils in grades K-8, interdisciplinary in approach, the ac-tivities are taken from the subjects of science, art. social studies, mathemanes, language arts, English, manual arts, health, and guidance. The book contains some charts and illustrations, as well as a listing of supplementary references.

ED 134 415

Samuel, Barry C. Our Environment. A Collection of Lessons.

Council on the Environment of New York City.

Pub Date 73

Note _ 72p.

Available from—Council on the Environment of New York City, 5t. Chambers Street, New York, New York 10007 (\$1.50) EDRS Price MF-\$0.83 HC-\$3.50 Plus Postage,

EDRS Price MF-30.83 HC-53.50 Plus Postage.

Descriptors—"Elementary Education, "Elementary School Science, "Environment, "Environmental Education, "Instructional Materials, "Teaching Guides, Urban Areas

The lessons in this publication present a concrete approach to the teaching of environmental science for grades 3 through 8. The ideas presented are geared for use in an orban setting. The material is structured so that it can be used as an entire unit or parts of it can be adapted for use with on-going classroom activities. Twentyseven lessons are included. Each activity includes suggestions for motivation, procedures to follow. questions to raise, and answers to many of the questions. Sketches for overhead transparencies are included for many of the lessons. (RH)

ED 134 448 . SE 021 919 Valuing the Environment, K-6.

Charlotte-Meeklenburg Public Schools, Charlotte.

N.C. Spons Agency—North Carolina State Dept. of Public Instruction. Raleigh Div. of Develop-

Pub Date [75]
Note_143p , For related documents, see SE 021
920 and ED 106 087, Not available in hard copy due to marginal legibility of original document

EDRS Price MF-\$0.83 Plus Postage, HC Not Available from EDRS.

Descriptors—Conservation Education. *Elementary Education. *Environmental Education. *Instructional Materials. Learning Activities.

*Natural Resources. Outdoor Education.
Science Activities. Science Education. 'Values This guide was developed for use to grades k.6 as an enrichment program based on clarifying values. The program, designed by teachers, aims to develop in the Student a greater awareness and understanding of the community, themselves, and the earth. The program includes a number of environmental encountere. Topical themes lead teachers and students through main areas of awareness. Plants and Animals. Water. Air. Energy. Natural Resources. Land Use, and Aestheries and Pollution. The conceptual schemes under

each area of awareness increase in complexity ac-

cording to the development level of the students The activities in the encounters are actionriented, student-centered activities which pro-nde "handsnon" learning experiences. Each enocumer provides background information, behavioral objectives, activities, a resource reference listing, and value elarification strate-gies instructions for use of the value elarification strategies contained in the program are meluded (Author/RH)

SO 009 820 ED 134 535

King. David C. De La Sqra. Ann Suggestions for Curriculum Development [And] Handbook Primary Grades, Part A. K.J. En-vironmental Education Interdependence: A Con-

cept Approach. Revised.
Center for Global Perspectives. New York. N.Y Spons Agency—Diffice of Education (DHEW).
Washington, D.C. Diffice of Environmental Education.

Pub Date Sep 76

Note-64p : For related documents, see SO 009 #21.#2i

Available from-Center for Global Perspectives. 218 East 18th Street. New York. New York 10003 (guide \$1.50, handbook \$2.00)

EDRS Price MF-\$0.83 Plus Postage. HC Not Available from EDRS.

Desemptors-Bibliographies. Concept Formation. ·Concept Teaching, Curriculum Development. Educational Objectives, Elementary Education. *Environmental Educations Global Approach. "Interdisciplinary Approach. Learning Activities. "Lesson Plans, Primary Education, Relationship, "Teaching Methods Identifiers...."Interdependence

Two booklets, a guide and handbook, comprise the K-3 component of a series of guides for incorporating environmental education into the existing curriculum. The materials emphasize a multidisciplinary approach, use the concept of interdependence as an organizing theme, and offer suggestions for using the local community as a resource. The guide outlines eight objectives, ineluding understanding of the relationship of parts of a system to the whole and using skills from many subject areas to explore the student's en-vironment. Activities and bibliographic resources are provided for helping children learn about families and eities as systems, interdependence of people and plants, and use of tools to help people interact with the land. The handbook contains 12 lessons which are either concept-building exereises or activities in which students use she concept to explore various content areas. For each lesson, the goal, objective, materials, procedure. follow-up activities, and alternative learning ac-tivities are presented. Students examine the workings of a regraetable ball-poins pen, try to perform normal class activities with thumbs taped down, identify all the systems each student belongs to at any particular moment, and eaplore problems of overcrowded systems. (AV)

SO 009 821

King, David C. Long, Catheyn J. Suggestions for Curriculum Development (And) Handbook Lpper Elementary Grades, Part B. 4-6. Environmental Education Interdependence: A Concept Approach. Revised.

Center for Global Perspectives, New York, N.Y. Spons Agency—Office of Education (DHEW), Washington, D.C. Office of Environmental Education Pub Date Sep 76

Note-102p, For related documents, see SO 009

Available from—Center for Global Perspectives. 218 East 18th Street, New York, New York 10003 (guide \$1.50, handbook'\$2.001

EDRS Price MF-\$0.83 Plus Postage. HC Not Available from EDRS.

Descriptors—Bibliographies. Concept Formation.

*Concept Teaching. Curriculum Development.
Educational Objectives. Elementary Education.

*Environmental Education. Global Approach.
Grade 4, Grade 5. Grade 6. *Interdisciplinary Approach, Cearning Activities, *Lesson Plans, Relationship, Social Studies., *Teaching Relationship, Methods

Identifiers - Interdependence

Two booklets contprise the grades 4-6 com-

ponent of a series of guides for incorporating enironmental education into the existing curricufum. Both the guide and handbook emphasize a multidisciplinary approach, use the concept of interdependence as an organizing theme, and offer suggestions for using the local community as a resource to study the individual's relationship to the total environment. Among eight objectives are understanding the meaning of systems and interdependence, recognizing that people use and shape their environments, and appreciating relationships besween one's immediate surroundings and the natural systems of the planet. In the guide, activities and related readings are sug-gested for achieving the objectives in specific subject areas social studies, art, science, mathematies. U.S. and state history, reading, and writing For example, students use a globe to calculate how much of the planet is land and how much land is habitable. The handbook contains lessons, many based on readings which emphasize comparison of human and environmental systems, the role of microbes, and environment-dependent communities such as a river town Some activities involve the exploration of students' familiar surroundings; others focus on global issues. Bach lesson contains goals, objec.tives, aetivities, and follow-up aetivities. (AV)

ED 141 141 Water for Fun. A Learning Experience for Coastal and Oceanic Awareness Studies, No. 104, 1Pro-

Delaware Univ. Newark Coll. of Education... Spons Agency—Office of Education (DNEW). Washington, D.C.

Note—17p. For related documents, see SE 022 662-687. Contains occasional light type EDRS Price MF-\$0.83 HC-\$1.67 Plus Postage.

Descriptors _ * Erementary Education. *Instructional Materials, "Language Arts, "Oceanology, Reading, "Recreation, "Teaching Guides. Vocabular) Development Identifiers-Project COAST

This teaching guide for students in grades K-4 struction related to recreational use of water areas. Some supplementary language arts aetisties and a suggested hook list are also included (RH)

ED 142 427 SE 022 815 Environmental Studies Center Teacher Books. Kindergarten - Your Environment.

Martin County Schools, Jenson Beach, Fla. En-vironmental Studies Center.

Note-33p. For related documents, see SE 022 816-823. Not available in hard copy due to colored pages throughout entire document Available from—Environmental Studies Center. 2900 NE Indian River Dr., Jensen Beach, Florida 33457 (\$1.00, all 9 books \$20.00) EDRS Price MF-\$0.83 Plus Postage, HC Not

Available from EDRS.

Descriptors-Curriculum Development. Elementary Education. *Elementary Grades, Environ-ment. *Environmental Education. *Instructional Materials, Kindergarten, Learning Activities, Nature Centers, *Oceanology, Outdoor Education, *Teaching Guides

Identifiers-Estuarles, Florida

This teacher's guide, one of nine teacher ackages developed for use in the sequential, hands-on. fleld-oriented, K-8 environmental edu-cation program of the Martin County Schools in Florida, was developed for use with kindergarten children prior to and after a visit to an environmental studies center located itear an estuarne area. This kindergarien program includes a variety of activities designed to acquaint the student with the term "Environment." The guide contains teacher instructions, scripts, tests with answer key, and a copy of all student materials. Flash cards, a felt board story, and slide/tape program are not included. General and specific program objectives are stated and a program outline, including learning activities to be completed at the school and the environmental studies center. is detailed (BT)

ED 142 429 SE 022 817 Environmental Studies Center Teacher Books, 2nd Grade - Communities. Martin County Schools, Jenson Beach, Fla. Environmental Studies Center.

Pub Date 76

Note-52p., For related documents, see SE 022 815-823. Not available in hard copy due to marginal legibility of original document Available from—Environmental Studies Center.

Available from Environmental studies Center. 2900 NE Indian River Dr., Jensen Beach. Flonda 33457 (S1 50, all 9 books \$20 00) EDRS Price MF-\$0.83 Plus Postage. HC Not Available from EDRS.

Descriptors-Curriculum Development. *Ecoloescriptors—Curriculum Developments
gy. Elementary Education, • Elementary
Grades, *Environmental Education. Grade 2.
Instructional Materials. Learning Activities. Nature Centers, *Oceanology. Outdoor Education ture Centers. *Oceand tion, *Teaching Guides

Identifiers- Estuaries, Florida

This teacher's guide, one of nine teacher packages developed for use in the sequential, hands-on, field-oriented, K-8 environmental education program of the Martin County Schools in Florida, was developed for use with elementary children in grade two prior to and after a visit to an environmental studies center located near an estuarine area. The grade two program centers around the concept of "Communities" and is designed to stimulate the students' use of all sherr senses in discovering more about their sur-joundings. This guide contains teacher insitue. tions, scripts, tests with answer keys, and a copy of all student materials. Flash eards and five slide/tape programs are not included. General and specific program objectives are stated and a program outline, including learning activities to be completed at the school and environmental studies center, is detailed (BT)

ÉD 144 786 SE 022 922° Suggested Activities/for Environmental Education in the Elementary Schools.

Texas Education Agency, Austin Div. of Curnoulum Development

Pub Date 77

Note-41p. For telated document, see SE 022 923. Not available in hard copy due to colored print throughout entire document EDRS Price MF-\$0.83 Plus Postage. HC Not

Available from EDRS.

Descriptors - Classroom Materials. Curriculum Entrehment. *Curriculum Guides. *Elementary Education. *Environmental Education. *Instructional Materials. Learning Activities. Resource Materials, Science Education

Resource Materials, Science Education Identifiers—Texas Editication Agency
This publication is designed as a model to assist elementary teachers in developing environmental education activities in all subject areas Both public school and college viturators developed, this goide to help make children aware in the value of the environment and of the responsibility they have for conserving it Discussions of the curriculum model for the guide and the program format and criteria are included for the teacher The currectum model demonstrates the interrelationships of personal concerns, environmental concerns, and educational process. A mul-udsciplinary approach is an important com-ponent in every suggested activity topic. Some of the areas covered are environmental offices types of pollution, population, urbanization, transporta-tion, and energy. Each topic includes a short overview and a listing of generalizations and suggested pupil activities. The educational exdividualize student learning, emphasize community involvement, and encourage exploratory and investigative learning. A companion goods is also available for secondary grades. (Author, MA)

ED 147 581 CE 014 021

Lawson, Jane And Others
Travel Op! Mini. Units and Learning Activities on

Transportation for Grades K-3.
Abt Associates, Inc. Cantbridge, Mass
Spons Agency—Office of Consumer Affairs.
Washington: D. C.
Pub Date 77

Contract DOT-OS-30086, DOT-OS-30026 Note 222 p. For related documents see Cl. 014

EDRS Price MF.\$0.83 HC-\$22.09 Plus Postage. Descriptors—Basie Skills, Curriculum Guides, Elementary Education, *Elementary School Curriculum, Energy Conservation, Environmen tal Education, Group Activities, Independent

Study, Kindergamen, *Learning Activities, Lesson Plans, Motor Vehicles, Pedestrian Traffie, Pollution, Primary Education, Resource Material romaion, rinnary daucation, recourse realertals, *Safety Education, Service Vethicles, Skill Development, Traffic Regulations, 'Traffic Safety, Traffic Signs, *Transponation, Vehicu. * lar Traffic

One of a series of eleven curriculum manuals which cover the four transportation topics of public transportation, transportation and the environment, transportation safety, and hieyeles for elementary, secondary, and adult levels, this manual for grades K.3 govers all four topies Materials in the thirteen mini-units present dif ferent aspects of the four topics. Each mini-unit consists of a lesson plan component, which provides a suggested sequence of learning activities. and an individual learning activities component which describes in detail how to implement the exercises Typical mini-units focus on street signs. emergency vehicles, learning to tide a bike, and an introduction to the concepts of pollution and energy conservation. Most units provide opportunity to exercise basic skills in language arts. mathematics, and social interaction and thus may be integrated with other parts of the K-3 curriculum. Supplementary activities are included for each topic which offer additional learning activities for independent use, quizzes for activity or mini-unit evaluation are also included. Also ineluded are instructions for selecting and conduct. ing the activities and references for further study resources Masters are included for reproduction of role profiles, game boards, maps, and other distributable materials. A curriculum guide. CE 014 028, is also available for use with the 014 028, is a

ED 147 582

oillan T

And Others

Travel Dn! Mini-Units and Learning Activities on Transportation for Grades 4-6.

CE 014 022

Abt Associates. Inc Cambridge, Mass
Spons Agency—Office of Consumer Affairs.
Washington, D.C.
Pub Date 77

Ontract -- DOT-OS-30086, DOT-OS-50026 ote-456p., For related documents see CE 014 021-032

EDRS Price MF-50.83 HC-\$24.77 Plus Postage.
Descriptors—Basic Skills. Curriculum Guides.
Elementary Education, Elementary School Curreculum, Energy Conservation, Environmental
Education, Group Activities. Independent
Study, Intermediate Grades. "Learning Activities, Lesson Plans, Motor Vehicles, Pedestrian
Traffic, Pollution, Resource Materials, "Safety
Education, Service Vehicles, Skill Desclopment, Traffic Regulations, "Traffic Safety,
Traffic Signs, "Transportation, "Vehicular
Traffic EDRS Price MF.50.83 HC-\$24.77 Plus Postage.

One of a series of eleven curriculum manuals which cover the four transportation topies of public transportation, transportation and the enstronment, transportation safety, and bicseles for elementary, secondary, and adult levels, this manual for clades 4-6 covers all four topics Materials in four chapters comprising fourteen minimums gover different aspects of each of the four topics. Each mini-unit consists of a lesson plan component, which provides a suggested secretary of tearning activities, and an individual learning sensities component, which describes in detail how to implement each exercise Typical elementure mini-units focus on street signs, emer-gence senicles, learning to inde a bike, and an in-troduction to the concepts of pollution and energo conservation. Most units privide apportunity to exercise have skills in language arts, mathematics on lispoial interaction. Supplementary acto the are included at the end of each chapter which offer additional fearning activities for inde-penden, who, Also included are readings on transportation and the environment, a list of references for further study resources, and masters for reproduction of role profiles, game boards maps and other distributable materials. (A curreculum guide, CE 014 028, is also available for use with the manuals,) LTA)

Finn. Peier And Others
Transportation and the Environment in Harmony: Mini-Units and Learning Activities for Grades 6

through 9. Abt Associates, Inc Cambridge, Mass

-Office of Consumer Affairs. Agency Washington, D.C Pub Date 77

Contract—DOT-OS-30086, DOT-OS-50026 Note—240p; For related documents see CE 014 021-032

EDRS Price MF-\$0.83 HC-512.71 Plus Postage.

Descriptors—Consumet Education. Corriculum.
Curriculum Guides, "Environmental Education. Group Activities, Independent Study, Junior High Schools, "Learning Activities, Lesson Plans, Middle Schools, "Motor Vehicles, Pollution. Resource Materials. Safety Education, Secondary Education, Skill Development. Traf-fic Safety. "Transportation. "Vehicular Traffic One of a series of cleven curriculum manuals

which cover the four transportation topics of public transportation, transportation and the environment, transportation safety, and bicycles for elementary, secondary, and adult levels, this manual covers the transportation and the environment topic for grades 6-9. It contains thirtynine learning activities grouped into seven mini-units. Each mini-unit consists of a lesson plan component which provides a suggested sequence of learning activities, and an individual learning activities, component, which describes in detail how to implement each exercise. The first mini-unit provides a survey of issues related to transportation and the environment; the rest are as follows learning about the interrelations between transportation and the environment, learning about the automobile's effects on the environ-ment, identifying solutions to conflicts between's transportation and the environment, taking personal action to resolve conflicts between trans-portation and the environment, exploring how citizen participation can help resolve conflicts between transportation and the environment, and researching issues related to transportation and the environment of final section offers additional activities that may be used to evaluate or supplement evaluation of an activity or mini-unit. Also included are teferences for further study resources, and for reproduction of role profiles. game boards, maps, and other distributable materials (A curriculum guide, CE 014 028, is also available for use with the manuals.) (TA)

ED 149 843 Language, Ecology, and Families (L.E.A.F.): A
Gulde to K.J Language Leology Actuaties.
Janesville Juint District I. Was

Janesville Juint District I. Was Spons Agency—Bureau of School Systems (DHEW/DE) Washington, D.C

Pub Date 77 Note - 262p

EDRS Price MF-\$0.83 HC-514.05 Plus Portage. Descriptors— Communication Skills, Composi-tion Skills (Literary), Corrieulum Guides,

tion Skills Chiteraryl. "Curriculum Guidet. "Ecology, "Environmental Education, Grade 1, Grade 2, Grade 3, Kindergarten, "Language Development. Learning Activities. Outdoor Education, Paren Participation, "Primary Education, Science Activities, Vocabulary Develop-

This Project L.E.A.F. guide to ecology and language development activities for the primary grades consists of separate sections for kindergarten and grade. I and a combined section for grades 2 and 3. Project L.E.A.F.-Languago. En-vironment (Ecology) and Families--tovolsed 270 Wisconsin primary school students in a model program with three main goals (1) to stimulate the development of oral and written communication skills through the study of ecology, (2) to intion stills inrough the study of ecology, (2) to involve parents and children in acology-priented activities, and (3) to create a greated awareness of ecology among elementary school children bach grade section of the guide ty/divided into subject units geated to season, of the year, with lesson placs within each unit providing a variety of suggested learning activities and lists of resource male rials. Activities include an and constitution property and activities include an and constitution activities. struction projects observation walks, gardening, caring fire animals, field trips and experiments, as well as language development activities. The kinderganen and first grade sections (23 and 17 trips) and the sections (23 and 17 trips) and the sections (23 and 17 trips). units) cover plants, insects, unimals and weather. Grade I units are designed for one or more weeks. The second and third grade vectors consists of 9 units, with 6 to 14 lesson plans per unit and a 23-plan unit on covironmental writing Subjectivareas for grades 2-3 are forest, prame, pond and wetland; desen and jungle environments, and pollution problems. (BF)

ED 149 979 SE 023 448 Enclroamental Education. Sturs for the future: Curriculum. Population. Factronmental Ethics. Enstronmental Decisions, Environmental Decisions, Economics, Ecosystems, Energy, and Technology, Packet Ki

Illinois State Office of Education, Springfield. Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE). Washington, D.C.
Pub Date 77

Grant-10E-551-2-75 Orante 102-233 p. For related documents, see SE 023 449-457 and SE 023 459-465; Contains occasional light and broken type EDRS Price ME-50.88 HC-512-71 Plus Postage.

Descriptors-Curriculum Guides. Elementary Education, Education Guiper, Education, Instructional Materials, Primary Education, Primary Education, Presource Materials, Science Education, Teaching Guides, Values

Identifiers-Elementary Secondary Education Act Totle III

This bonk? One of a series in environmental dusation for students in grades K-12. Scientific literacy, a major goal of the program, it almided into seven concept areas Economics, Ecosystems, Energy, Technology, Population, Enenncept Economics. stronmental Ethies, and Enstronmental Decisions Each of these areas represents a separate unit in the program An introductory section gives the structure, goak, and guidelines of this program, Each of the sections is color-coded for the appropriate concept area. These sections contain behavioral objectives, appropriate subject areas, and activity options. Each option gives a listing of materials and resources, procedures, and discusson questions. There are numerous illustrations to assist the teacher. This booklet is designed for grades K-2, IMA)

ED 149 980 SE 023 449 Environmental Education. Values for the Future:
Curriculum, Population, Environmental Ethics, Environmental Decisions, Economics Ecosystems, Energy, and Technology, Packet 3-

Illinon State Office of Education, Springfield. Spons Agency-Bureau of Elementary and Secondary Education (DHEW/OE). Washington, D.C. Pub Date 77

Grant-IDE-55)-2-75

Note-266p.; For related documents, see SE 023 448-457 and SE 023 459-465, Pages 6, 7, and 2) of the Technology section removed prior to being shipped to EDRS due to copyright restrictions

EDRS Price MF-50.83 HC.\$14.05 Plus Postage. Descriptors—"Curneulum Guides, "Elementary Education, "Encironmental Education. *Instructional Materials, *Learning Activities.
Population Education, Resource Materials,
Science Education, *Teaching Guides, Values Identifiers-Elementary Secondary Education Act Title III

This booklet is one of a series in ensironmental education for students in grades K-12. Scientific literacy, a major goal of the program, is divided into scien concept areas Economics, Leosystems, Energy, Technology, Population, Environmental Ethics, and Environmental Decisions. the program An introductor, secund guestions, the program An introductor, secund gues the structure, goals, and guioclines of this curriculum program Each of the sections is color-coded for the appropriate concept area. These sections conturn behavioral objectives, approposite subject areas, and detivity options bach option gives a listing of materials and resources, procedures, and discussion questions. There are illustrations: to assist the teacher. This particular booklet is designed for grades 3.5. (S(A)

ED 149 982 SE 023 451 Environmental Education, Values for the Future: Population. Grades 6.8.
Illinois State Office of Education, Springfield

Spons Agency Bureau of Etementary and Sceondary Education (OHEW/Ols), Washington, D.C Puh Date 77

Nate-Stip., For related documents, see St. 1123

Grant-IOE-551-2-75

Guides

* 448-457 and SE 023-459-465 EBRS Price 51F-50.83 HC-52.06 Plus Postage. (1988) Price *11-30000 inc.30000 enus i dominio. Descriptors—*Elementary/Secondary Education. -*Environmental Education. *Inciruettional *Environmental Education.

Materials, Interdisciplinary Approach.
*Learning Activities, Middle Schools, Natural
Resources, *Population Education, Resource

Education, *Teaching Materials. Resources. *Population Education Materials. Science Education.

Identifiers-Elementary Sceondary Education Act

This booklet on population is one of a sense in environmental education for grades k-12. The astivines contained within decelop the concept of origins of life and the fide of culture in determining population interactions four have concepts are listed and the behavioral objectives. sociated subject areas, and key words and defini-tions are included for each. Three activity options are given for each concept. Information for the leacher includes materials and resources needed for the activity, the procedure, discussion questions, further activities, and sample worksheets. These activities are interdisciplinary in nature and designed for students in grades 6-8

ED 149 984 SE 023 453 Environmental Education, Values for the Future: Environmental Decisions. Grades 6-8.

filmers State Office of Education, Springfield Spans Agency Bureaus of Elementary and Secondary Education (DHEW/OE), Washing. ton, D C

Pub Date 77 Grant - 10E.551 -2-75

Note=56p. For related documents, see SE 023 448-457 and SE 023 459-465. Page 21 "Auto Data" marginally legible. Contains occasional

light and broken type EDRS Price MF-50 83 HC-53.50 Plus Postage. Secondary Education Making, "Elementary Secondary Education, Environment, "Instrumental Leducation, "Instrumental Material Making, Fearing Guides, Pollution, "Problem Solving, Teaching Guides,

Identifiers-Elementary Sceondary Education Act Title III

This booklet on environmental decisions is one This bounder on environmental decisions is one of a series in obseronmental education for grades hall the activities contained in this booklet are designed to ideous components of complex decision making and to develop the idea of responsibility for decision. Six haste concepts are lieted, along with the behavioral objectives, subject areas, key words and definitions associated with each Three activity opinions are given for each concept. Information for these activities included materials and resources, procedures, discussion questions, further activities and sample worksheets like activities are interdisciplinary and designed for students in grades 6.8. (MA)

ED 149 987 SE 023 456 Environmental Education, Values for the Future: Energy. Grades 6-8.

Illinois State Office of Education, Springfield', Spons Agency—Bureau of Elementary and Secondary Education (DHEW, OE), Washington, D.C. Pub Date 77 Grant-IOE-551-2-75

ed by ERIC

Note 47p. For related documents, see SE 023 448-457 and SE 023 459-365, Contame occa-

sional light and broken type EDRS Price MF-50.83 IIU-52.06 Flus Postage. Descriptors—Elementary Secondary Education, Energy, Environmental Education, bnergy. *Instructional Materials, Interdisciplinary Approach, *Learning Activities, Middle Schools. Natural Resources, Resource Materials, Science Education, Teaching Guides Identifices—Etomentary Secondary Education Act

Title III

This booklet on energy is one of a series in en-stronmental education for grades K.12. The activities contained within address the effect of culture to determining energy needs, energy loss, and forms of energy, hour basic enneepts are inted, along with behavioral educatives, subject areas, key words, and definitions for each. The three activity options associated with each condept include the following intermation: materials and resources, procedures, discussion questions, wither, and sample worksheets. These

3

interdisciplinary activities are designed for students in grades 6-8 (MA)

ED 149 988 SE 023 457 Environmental Education, Values for the Future:

Technology, Grades 6-8.

Illinois State Office of Education, Springfield
Sports Agency—Bureau of Elementary and
Secondary Education (DHEW/OE), Washing-

100. D.C. Pub Date 77

Grant-IOE-551-2-75

offe-48p. For related documents, see SE 023 448-456 and SE 023 459-465. Contains occueronal light and broken (3 pc EDRS Price NF. 50.83 HC-52.06 Plus Postage,

Descriptors-Ecology, Elementary Secondary *Environmental Education. Instructional Materials, Interdisciplinary Approach, *Learning Activities, Middle Schools, Natural Resources, Science Education Matural Resources, Science Education.
*Teaching Guides, *Technology
Identifiers...Elementary Secondary Education Act

, Totle III

This booklet on technology is one of a series in environmental education for grades K-12. It is concerned with the relationship of technology to the use of resources and the effect of technology on the environment. Four basic concepts are listed, along with behavioral inhibetives, subject areas, key words, and definitions for each. The three activity options developing each concept include the fullowing information materials and resources, procedures, discussion questions, further activities, and sample worksheets These activities include surveys, filmstrips, role play, and collages for students in grades 6-8 (MA)

ED 153 819 SE 024 108 Oklahoma Energy Awareness Education, Energy Education Activities, Grades K-3, Oklahoma State Dept of Education, Oklahoma

City.

Spinis Agency—Bureau of Elementary and Secondary Education (DHEW/OE), Washing-

Note = 176p. For related documents see \$2.024 109-110. Not available in hard cops due or

marginal legibility of uriginal document EDRS Price MF-30.83 Plus Postage. HC Not Available from EDRS.

Descriptions. Activity Units, Elementary Education, Energy Conversation, Environmental Education, Instructional Materials, Interdisciplinary Approach, Natural, Resources, *Primary Education, Links of Study Wentifiers - *Oklaboma

This publication contains energy education acterities for grades K through I and is part of a set of three publications. These, activities are unguarted under five, energy concepts, the energy is we have that nothing mores without it. (21 conservation of energy, 13) there are other energy alservation of energy, (3) there are other energy al-ternatives, (4) vocates depends on energy, and (5) the production and distribution of energy have environmental and ecomonic consequences. This publication is constructed in a lumbical fashian in facilitate the reproduction of activities. Purpose, concept of objective, harterials, and activity description are given for each actuity. Activities involve students in games, values clarifications, and independent investigations. Activities may be relected and used in the corriculum as desired to achieve an interdisciplinary approach (AIR)

ED 453 845

SE 024 171

ED 153 845 SE U24 171
Bloc 9. Lengre And Otherr
Interdisciplinary Student/Teacher Materials in Energy, the Endronment, and the Economy: S. Community Workers and the Energy They Use, Geade 2.

National Science Teachers Association, Washington, D.C.

Spons Agency-Bureau of Intergovernmental and Institutional Relations (DOE), Washington, D.C. Office of Education, Business and Labor Affairs

Report No_EDM.1030 Pub Date Oct 77 Cankuct-EX-76-C-10-3841

Ç

Note = 77p., For related documents, see SE 024 167-172 and SE 024 218 -Avuilable from U.S. Department of Energy.

Technical Information Office, P.O. 803 62.

Oak Ridge, Tennessee 37830 (nn price dunted)

EDRS Price MF-50.83 HC-54.67 Plus Postage. Descriptort—Economics, Elementary Education, "Energy, Environment, Grade 2, "Instructional Materials. *Science Education. *Social Studies. Teaching Guides

This instructional unit for the second grade it intended to definite the child's europs to though a blending of ideas whost energy with a study of the effect of the use of energy on the livelihood of people in the community. There are four lesssons in the unit. The first, Introduction to Energy, deals with the question, "What is energy and energy conservations." The second lesson, Comsmergy ennyers who work Directly with the Sources of Energy, discusses farmers, grocers, food processors oil workers, gas station atten-dants, and meter readers. The third lesson is ention a Continual Supply of Energy. The fourth lesson is Community Workers Whose Work Depends on a Continual Supply of Energy. The fourth lesson is Community Workers Who Make Decisions About Energy. Each feeson contains complete background readings, Objectives teaching strate-gres, and suggestions for extending the learning outside the classroom. (BB) influding

ED 153 846

SE 024 172

Bloch Lemnte 4nd Others
Interdisciplinary Student Teacher Marerials In
Energy, the Environment and the Economy: 6,
The Energy We Use, Grade 1.
National Science Teachery Association, Westing.

ton. D C

Spons Agency - Bureau of Intergovernmental and Incitational Relations (DOE), Washington, DC Office of Education, Business and Labor

Report No-EDM-1029

Pub Date Oct 77. Contract EX.76.C.10.3841

Note-47p., For related ducuments, see SE 024 167-17f and SE 024-218

vailable from—L.S. Department of Energy, Technical Information—Office, P.O. Box 62, Oak Ridge, Tennessee 37830 (no price quoted) Available from L S Deparement EDRS Price MF-50.83 HC-52.06 Plus Postage.

Descriptors-Curriculum Guides, Elementary Education. Flementary School Science. Energy, Environmental Education. Grade 1. *Lexion Plans, Science Education. Linits, Unit Plan

This instructional unit contains a set of nine, lessons un energy for grade time. Each lesson conturns complete teacher and student materials Reading wills and language experiences are rein-ferred in each activity. The rescons cover such topics as energy from food, energy from the sun, fossil fuels, the wind moving water and energy conservation. The children examine things such as ketcal glains to learn about tool energy make clay dimosputs to ger some idea about the formation, time of eval, sit, and, natural gas, and become part of a princheel parade showing the energy miwmd. i BB r

SÉ 024 218 ED 153 859 Johnson, Betton Swinton, Olivia

Interdisciplinary Studen/Teacher Maierials In Energy, the Environment, and the Economy. Networks: How Knergy Links People, Goods and Services, Grades 4, 5.

National Serence Teachers Association, Washingion, D.C.

Spons Agency-Bureau of Intergovernmental and Institutional Relations (DOE). Washington, D.C.80ffice of Education, Business and Lubor Affairs

Report No.-HCP/U-3841-0005

Pub Date Feb 78 Contract -- EX -76-C-10-3841

Note-107p. For related documents, see SE 024-167-172: Not available in hard copy due to-

marginal legibility of original drieument
Avadable from U.S. Department of Energy,
Technical Information Office, P.O. Box 62,
Oak Rulge, Tennessee 37830 (no price quoted)
EDRS Price MF-50.83 Plus Postage, HC Not Available from EDKS.

Descripturs - Liestrietts, *Clementary Education, *Energy, Grade 4, Grade 5, *Instructional Materials, Integrated Curriculum, Science Education, Science Studies, Teps bing Guides The purpose of this unit is fir investigate a sim-

ple energy network and to make an analogy with similar mutually supporting networks in the natudevelop the network idea around a simple electrialui into further consideration of electrical ener-8) tivelf. The network idea in the later lessons emphasizes the interdependence of the man-made network for producing and distributing electrical energy and the natural equippied network. In the final lesson, the consuming end of the network is examined and some strategies for consuming electrical energy are examined. Students should learn that energy networks such as the electrical elicults are a necessary part of modern life. They are also espected to learn about sources, consersinns, and uses of electrical energy. There are six lessons in this fourth, and fifth-grade unit-Complete teacher and student materials are proided (BB)

ED 157 682

SE 022 841

Tully, Randolph R . Ir , Ed

A Curriculum Activities Guide to Interdisciplinary

Environmental Studies. Project KARS, Blue Hell, Pa

Spons Agency-Office of Education (DHEW), Washington, D.C

Pub Date 76

Grant-OFG-71-1775

Note=195p.; For related documents, see SE 022 \$40.842

Available from-Project KARE, Colony Office Bidg., Route 73 & Butler Pike, Blue Beli, Pa

19422 (no price quoted)

SDR5 Price MF-S0.83 H(".\$10.03 Plus Postage. eseriptors-Curriculum Guides, Elementary Secondary Education, Environmental Education, "Instructional Materials, "Interdisciplinary Approach, "Learning Activities, Natural Resources, Resource Materials, Science Education, *Teacher Developed Materials Identifiers -- Project KARE

This guide contains a surrety of interdisciplinglearning activities in environmental education. It was developed by reachers and intended for use in elementary or junior high school programs.
The contents are divided into six sections according in subject (1) Art and Sensitivity. (2) Language Arts. (3) Mathematics; (4) History; (5) Social Studies, and (6) Science. Each activity ineludes introduction, equipment hat, procedure, and questions. There are over 80 activities total, and each content subject has activities that are retated in other subject areas by topic. An appen-dia explains the development work done in writing this golde. (MA)

ED 157 683

SE 022 842

Sexton, Alan D , Ed. A Carriculum Activities Guide to Seketed Ea-vironmental Topics for the With Elementary and Junior High School Students.

Project KARE-Blue Bell, Ps.
Spons-Agency-Office of Education (DHEW),
Washington, 1).C.

PubliDate 74 Grant-ORG-7171775

Note-= 133p., For related documents, see SE 022 840-841

Available from Project KARF, Colony Office Bilg, Route 73 & Butter Pike, Blue Bell, Pa. 19422 (no price quoted)

KDRS Price MF-Sd.RJ IIC-\$7.35 Plus Postage.

Description. Currection Guides, *Flementary Secondary Education *Environmental Educa-tion, *Instructional Materials, *Interdisciplinary Approach, *I carning Activities, Natural Resources, Pullution, Population fiducation. Natural 4 Science Education

Identifiers - Project KARF This golde contains learning activities in onvirtummental education developed by teachers and intended for use at the crementary or juming high school levels to pies stiveted include water. extheties, air, soil and sediment, solld waste, encrgy, muse, populition, and trynsportation, Generally, each astrony contains an introduction. s listing of materials, the statement of procedure. and several appropriate questions in ask the students. Activities are interdisciplinary and include pend studies, postry writing, and are work. The appendix contains infinite itim wheat the development and writing of this curriculum gorderfMA)

SE 024 762 ED 157 760 Graham. Phyllis And Others Popullation at Construirel: A Galds 6 and Strategies ta Environmental Education, Grades 6-8.
Florida State Dept. of Education. Tallahassee, Office of Environment Education

Pub Date Xug 76 Note-184p., Contains occasional light and

brokenstype EDRS Price MF-\$0.83 HC-\$10.03 Plus Postage-Descriptors-Conservation Education. Ecology,

Education •Elementary Secondary *Environmental Educations *Instructional Materials, *Natural Resources, *Teaching Guides*

This teaching guide contains a variety of en-vironmental education activities divided by grade level. A general objective is stated, followed by as many, as 25 related activities. Each activity is short, and many are followed by discussion questions. This guide should prepare students for errocal appraisal and responsible decision-making in utilizing the earth's resources. (Author/RH)

ED 157 762

SE 024 764

Atith, Judy, Comp.

Man and Mather Nature: A Salance. Florida State Dept. of Education, Tallahamor, Of-,

fice of leavenament Education.

Note-115p.; Contains occasional light and hroken type
EDRS Price M F.\$0.83 HC.\$6.01 Plus Pustage.

Descriptors—Biological Sciences, *Conservation Education, Ecology, *Elementary Education, *Environmental Education, *Instructional *Bayronmental Eugenium, Instructional Materials, *Interdisciplinary Approach, Out-door Education, Pollution, *Teaching Guides

This series of interdisciplinary activities, some of which are done outside the classroom, promotes awareness of the relationship between nature and man. The booklet contains atudent worksheets, resource lists, a bibliography, and units on ecology and tree conservation. Lessons which are short and varied, cover topics such as awareness, pollution, conservation recycling, and balance. Most of the lessons follow the same formay objective, materials, introduction, activity, discussion, and follow-up activity. The materials designed for primary school acudents (Author/RH)*

SE 024 765

Abbott. Cleo And Others Hoppergenss and Stickerbosh: A Beginning, A Guide to Activities and Strategies in Environmental Education, Gendes K-5.

Florida State Dept. of Education, Tallahassee. Office of Environment Education.

Pub Date 75

Note — 52p.: Contains occasional light type EDRS Price MF-80.83 HC-83.50 Plus Postage.

Descriptors... *Biological Sciences, Conservation Education, Barth Science. Ecology, *Eiemonlary Education, *Environmental Education, *Instructional Materials, *Teaching Guides

This publication serves as a guide to activities and atrategies in environmental education, Lesson plans include objectives and suggested procedures on dealing with the following environmental con-cepts. (1) The earth is a vast but limited natural system: (2) The total environment is in constant change. (3) A living thing is the product of its heredity and environment; and (4) All living things, including man, are interdependent with one another and with their environment. The ac-tivities vary in complexity and amount of student setivity. (Author/RH)

ED 157 764.

SE 024 766

Courrents. Eugenie Scudder, Elizaheth Leology of the City: Urban Environmental Awareacis Teather's Guide, Intermediate Level Florida State Dept. of Education. Tallahaisec. Of-

fice of Environment Education.

Pub Date 76

Note-224p.: Pages 92 and 144 missing from document prior to being shipped to EDRS'for! filming: Hest copy available C. EDRS Price MF-\$0.83 IIC-\$11.37 Plus Postage.

Desemptors-Ecology. *Elementary Education *Environmental Education Instructional Materiels, Intermediate Grades,

Guides. *Urban Environment

This guide was developed for teachers to use in helpings students understand components of the uiban ecosystem. The guide is based on sequentially firanged performance objectives for each concept. Organization of the guide includes acforest ecology unit which overlap in concepts and philosophy. A pro/post-test is also racituded. (Author/RH)

ED 158 301

CS 204 285

Palmer, Cynthia Indian River County Environmental Education Instructional Gulde: Language Arts, Seventh Gende, Pilot Edition.

Indian River County Board of Public Instruction. Vero Beach, Fla

Spons Agency—Florida State Dept of Education.
Tallahassee Office of Environment Education Pub Date 75

Note-42p.: Fe CS204285-287 For related documents,

EDRS Price MF-S0.83 HC-S2.06 Plus Postage. EDRS Price MF-50,65 TO (Environment).

Descriptors—Conservation (English Curriculum. *Discovery Learning, English Curriculum. *English Instruction. *Environmental Education, Grade 7, Junior High Schools, *Language

Arts, "Learning Activities, "Responsibility, Teaching Guides As part of a language arts series for kindergar. ten through grade nine, this seventh grade guide exammes environmental values, concepts. problems, according to a common conceptual scheme all living things, including humans, ate interrelated and interdependent; heredity and environment interact to determine the characteristics of an organism and therefore a population, living things and environments are in a con-tinuous state of change, the world has finite resources and almost infinite demands are made on these resources, and each individual, as an agent of change, has a responsibility to the environment. The guide emphasizes the discovery process of abservation and offers a series of enprotest if intervaling and offers a series of en-vironmental activates in the language arts areas of biography, ereative writing, journalism, orall-communication, poetry, reading, the short story, and spelling. The guide includes background in-formation, a teacher nutline, and task sheets for the students. (MAI)

ED 158 302

CS 204 286

Green, Nurva And Dihers Indian River County Environmental Education Instructional Gulde: Language Arts, Eighth Grade, Pilot Edition.

indian River County Board of Public Instruction. Vera Beach, Fla.

Spink Agency—Flórida State Dept of Education.
Tallahassee Office of Environment Education. Pub Date 75 Nate-45p. related documents. For

C\$204285-287 EDRS Price MF-\$0.83 HC-\$2.06 Plus Postage.

EDRS Price Mr-20,000 (Environment), Descriptors—Conceivation English Curreculum, English Curreculum, Fducator F *Drscovery Learning, English Curriculum.
*English Instruction. *Environmental Educa-tion, Grade 8, Group Discussion, Junior High Schools, *Language Arts, *Learning Activities, Reading Skills, *Responsibility, Teaching Guides, Writing Skills

As part of a language arts series for kindergarten through grade nine, this eighth grade guide examines environmental values, concepts, and examines environmental values, concepts and problems according to a common conceptual scheme all living things including humans, are interrelated and interdependent, heredity and en-vironment interact in determine the charact vironment interact in determine the charac-teristics of an organism and therefore a population; living things and environments are in a continuous state of change, the world has finite resources and almost infinite demands are made on these resources, and each individual, as an agent of change, that a responsibility to the environment. The guide offers a series of environmental activities that stress the development of reading, writing, and discussion skills and emphasize the discovery method of observation. The guide includes hackground information, a teacher's nutline, and task sheets for the students. (MAI)

SE 025 380 ED 164 283 Energy: Pennsylvanie's Energy Curriculum for the Middle Crades, Governor's Energy Council, Harrisburg, Pa.; Penn-



sylvania State Dept of Education, Harrisburg

Pub Date—77
Note—217p , Drawings may not reproduce well
EDRS Price 31F-50,83 HC-511,37 Plus Postage,
Descriptors—*Activity Units, Curnculum Design.

*Curriculum Guides. *Energy Conservation.

*Environmental Education. Experiential Learning, Instructional Materials. *Interdisciplinary Approach. *Junior High Schools. Objectives. Student. Attitudes. Surveys

Identifiers—Energy Education, *Pennsylvania De-partment of Education

parment of Education
This publication is an energy curriculum for
grades 7 through 9 In each of the six modules a
number of activities are provided The module titles
are: (1) Energy: What is it About?: (2) Energy:
Whete Does it Go., (3) Energy Its Present Sources,
(4) Energy: Policy and Prospects: (5) Energy: Is
There Another Way?: and (6) Energy: How Can I
Help? Objectives, explanations of what to do, and
teacher's notes are given for each activity. Where
preseded, diagrams, tables and other teaching aids are needed, diagrams, tables and other teaching aids are provided for direct copying. The types of activities range from simple lab experiments to group discussions. Other features of this publication include a bibliography, a list of possible audio-valual aids, and an attitude survey to help measure the effect of these energy education materials. This eurriculum is designed to be an interdisciplinary and fairly com-plete energy education program which ultimately brings students to energy conserving lifestyles. However, teachers may easily adapt modules and activities to fit their own designs (MR)

Dowd. Patricia

SE 026 313

An Urban Environmental Education Curriculum Guide for a Sixth-Grade Teacher in Irvington. Pub Date—Jun 78

oto Date—Jim 18

New Jersey; M.A. Dissertations, Kean College of New Jersey; Not available in hard copy due to marginal legibility of original document DRS Price MF-50.83 Plus Postage. HC Not.

Available from EDRS. Descriptors—Curriculum.

*Curnculum Guides, Environment, "Environmental Education, Health. Education, Science Education, Urban Areas, "Urban Education, "Urban Environment, Urban Stu-

The study investigates a strategy for integration of comprehensive urban environmental education program into an existing school curriculum. It reviews data on the development of environmental education, programs now in operation, and data on the subject community of Irvington, New Jersey A product of the investigation was the development of a curriculum guide for environmental education for use in the sixth grade classes of the Irvington schools. The curriculum guide supplies background material, lessons, and sources for further research. The study concludes that there is a need for intervening environmental education into existing cur-ricula, a need for preparation by teachers before implementing urban environmental education, and a need for a curriculum that will help students tra-derstand their social, physical and cultural interac-tion with the environment (RE)

ED 166 009 SE 025 393 Jones John Ed.

Energy and Man's Environment: Activity Guide. An Interdisciplinary Teacher's Guide to Energy

and Energy and Man's Environment, Inc., Portland,

Pub Date—76
Note—36p.: For related documents, see SE 025
394-399. Not available to hard copy due to copyright restrictions

Available from—Energy and Man's Environment, 0224 SW*Hamilton. Suite 301. Portland, OR 97201 (525.00 a sei)

EDRS Price MF-50.83 Pius Postage, HC Not A allable from EDRS.

Units, *Conceptual Descriptors-Activity *Energy Conservation: Development, Energy, *Energy Conservation: *Environmental Educa-tion. Experiential Learning, *Instructional Materials, Interdisciplinary Approach, *Objections

This publication provides the goals, concepts, objectives, and rationale for the six activity guides In this series of energy education materials. The organization of this series, as presented in this publication, centers around six goals which correspond to and with Buides. Under each goal are several con-

cepts, which in turn, have several objectives. These concepts and goals are recremed above the activi-ties included in the guiors. The six goals are: (1) It is essential that each person know that there are many sources of energ), (2) It is essential that each person know that people are dependent upon energy, (3) It is essential that each person know that energy can be converted from one form to another; (4) It is essential that each person know how man's ie of energy creates an impact on the environmental and economic systems, (5) It is essential that each person know that the earth's resources are limuted; and (6) It is essential that each person know that new energy sources and more efficient systems, accompanied by different consumption practices, may alter the world energy dilemma. This concep-tual outline may be of use to teachers, curriculum specialists, and researchers. (MR)

ED 166 010 SE 025 394

Jones, John, Ed. Energy and Man's Environment Activity Guide: An Interdisciplinary Teather's Guide to Energy and Environmental Activities, Section One Sources of Energy.

Energy and Man's Environment, Inc., Portland, Oreg.

Pub Date-76

Note—440.: For related documents, see SE 025 393-399. Not available in hard copy due to copyright restrictions

ngnt restrictions
Available from—Energy and Man's Environment,
0224 SW Hamiton, Suite 301, Portland, OR
97201 (525.00 a set)
EDRS Price MF-50.83.Plus Postage, HC Not

Assilable from EDRS.

Descriptors—Activities. Activity Units, Concepnul Schemes. Energy, Energy Conservation, *Environmental Education, Instructional Materiels, *Interdisciplinary Approach, Junior High Schools, Middle Schools, Natural Resources, •Objectives

"Objectives
Identifiers—"Energy Education
This publication presents the activities pertaining
to the first goal of this activity guide series. The
activities in this publication focus primarily on the
svalability of resources, forms of energy, natural laws, and socioeconomic considerations. These materials are appropriate for middle school and junior high school students. These settyities, organized by objective under the concepts listed, are interdisciplinary and can be used in a variety of ways. The artivities are simply ideas of things that students can do to help them understand the concepts. It has been lett to the teacher to choose and implement these tdeas as desired. Activities range from an energy unit "treasure hunt" to dramatizing an Inca coronation. (MR)

ED 166 011 SE 025 395 Jones John Ed

Energy and Man's Environment Activity Guide: An Interdisciplinary Teacher's Guide to Energy and Environmental Activities, Section Two - Uses of Energy.

Energy and Man's Environment, Inc., Portland, Oreg.

Pub Date-76

Note-56p.; For related docments, see SE 025 393-399; Not available in hard copy due to copyright restrictions

Available from—Energy and Man's Environment, 0224 SW Hamilton, Suite 301, Portland, OR 97201 (\$25.00 a set)
EDRS Price MF-50.83 Plus Postage, HC Not

Available from EDRS.

Descriptors-Activities. Activity Units, Conceptual Schemes, "Conservation (Environment),
"Energy Conservation, Environmental Education, instructional Materials, Interductionary
Approach, "Junior High Schools, "Middle Approach, Junior Schools, Objectives

This publication presents the activities pertaining to the second goal of this activity guide senes. The activities in this publication focus primarly on awareness, conservation, and planning. These materials are appropriate for middle school and junior high school students. These activities, organized by objective under the concepts listed, are interdisciplinary and can be used in many ways. The activi-tics are simply ideas of thicgs that atudents can do to help them understand the concepts. It has been left for the teacher to choose and implement these ideas as desired. Activities range from writing a story that details the impact on members of a food

chain when one member is removed to conducting a community survey to determine how people are trying to conserve energy! (MR)

SE 025 396

Jones John, Ed. Energy and Man's Environment Activity Guide: An Interdisciplinary Teacher's Guide to Energy and Environmental Activities, Section Three - Contersion of Energy. Energy and Man's Environment, Inc., Portland,

Oreg.

Pub Date

Note-55p.; For related documents, see SE 025 393-399; Not available in hard copy due to copytight restrictions

Available from—Energy and Man's Environment, 0224 SW Hamilton, State 301, Portland, OR 97201 (\$25.00 a set)

EDRS Price MF.SO.83 Plus Postage, HC Not

Available from EDRS.

Descriptors—"Activities, Activity Units, Conceptual Schemes, "Decision Making Skills, "Energy Conservation, Environmental Education, Instructional Materials, *Interdisciplinary Approach, *Junior High Schools, *Middle Schools, Objec-

This publication presents the activities pertaining to the third goal of this activity guide series. The activities in this publication focus on understanding conservation processes, efficiencies, socioeconomic costs, and personal decision-making. These materials are appropriate for middle school and jumor high achool attidents. These activities, organized by objective under the concepts tisted, are interdisciplinary and can be used in many ways. The activities are simply ideas of things that students can do to help them understand the concepts, it remains for the teacher to choose and implement these ideas as desired. Activities range from stating the first and second laws of thermodynamies so the students' parties and the students' which runs entirely on solar energy. (MR)

ED 166 013

SE 025 397

LD 100 UIS
John, John, Ed
Energy and Man's Environment Activity Guide: An
Interdisciplinary Teacher's Guide to Energy and
Environmental Activities, Section Four - im-

Energy and Man's Environment, Inc., Portland,

Pub Date---76

lote—83p.; For related documents, see SE 025 393-399; Not available in hard copy due to copy-

right restrictions

Available from—Energy and Man's Environment,
0224 SW Hamilton, Suite 301, Portland, OR
97201 (\$25.00 a set)

EDRS Price MF-50.83 Plus Postage, HC Not

Available from EDRS.

Descriptors—"Activities. Conceptual Schemes:
"Energy Conservation. Invitorimental Education, Instructional Materials. "Interdisciplinary
Approach, "Junior High Schools. "Middle
Schools, Objectives, "Socioeconomic Influences This publication presents the activities pertaining to the fourth goal of this activity guide series. The activities in this publication focus on the socioeconomic effects of energy uses and eruses and the understandings needed to assess those effects. These materials are appropriate for middle school and jun-ior high school students. These activities, or samzed by objective under the concepts listed, are interdis-ciplinary and can be used in many ways. The serveties are simply ideas of things students can do to help them understand the concepts. It remains for the teacher to choose and implement those ideas as desired. Activities mage from an experiment measuring sulphur, dioxide in automobile exhaust to mapping the major sea lanes between oil producing countries and oil importing countries. (MR)

ED 166 014 Johas John Ed

Energy and Man's Environment Activity Guide: An Interdisciplinary Teacher's Guide to Energy and Environmental Activities, Section Fire - Limits

of Energy. Energy and Man's Environment, Inc., Portland,

Pub Date

Note-50p; For related documents, see SE 025 393-399. Not available in hard copy due to copyfight restrictions

Available from-Energy and Man's Environment, 0224 SW Hamilton, Suite 301, Portland, OR 97201 (\$25.00 a set) EDRS Price MF-50.83 Plus Postage, HC⁴ Not

Available from EDRS.
Descriptors—*Activities. Conceptual Schemes.
*Energy Conservation. *Environmental Education, High Schools, Instructional Materials, "interdisciplinary Approach. "Junior High Schools, Middle Schools, Objectives. "Policy Formation This publication presents the activities pertaining to the fifth goal of this activity guide series. The activities in this publication relate to understanding nature and the natural limits to growth, personal consumption practices, and the social and technological implications of rapidly deficting the world's natural tesources. These materials are appropriate for middle school and junior high school students. These scrivities, organized by objective under the concepts listed, are interdisciplinary and can be used in a variety of ways. The activities are simply ideas of things students can do to help them underat and the concepts. It remains for the teacher to choose and implement these ideas as desired. Activities range from writing a story explaining what the earth's energy resources will be like by the year 2000 to role playing an election to illustrate how the class can get their views into the government. Some of these activities may be suitable for high school attidents as well (MR)

ED 166 015

Jones John Ed

Energy and Man's Environment Activity Guide: An Interdisciplinary Teacher's Guide to Energy and Environmental Activities, Section Six - Poture Sources of Energy.

SE 025 399

Energy and Man's Environment, Inc., Portland,

Pub Date

Note—43p.; For related documents, see SE 025 393-398; Not available in hard copy due to copy-

right restrictions
Available from Energy and Man's Environment,
0224 SW Hamilton, Suite 301, Portland, OR
97201 (\$25.00 a set)
EDRS Price MF-50.83 Plus Postage, HC Not

EDRS Price MF-50.83 Plus Postage, HC Not Ataliable from EDRS.

Descriptors—"Accuracy, Conceptual Schemes, "Energy Conservation, "Environmental Education, Instructional Materials, Interdisciplinary Approach, "Junior High Schools, "Middle Schools, Objectives, "Technology

This Publication presents the activities perfaining to the sixth goal of this activity guide series. The activities in this publication relate principally to the more advanced technologies and the implications of their development. These materials are appropriate for middle school and jumer high school students. These activities, organized by objective under the concepts listed, are interdisciplinary. The activities are simply ideas of things students can do to help them understand the concepts. It remains for the teacher to use these ideas as desired. Accornes range from preparing and delivering an energy brief-ing to the class using the style of Walter Cronkite and information collected from the news media to listing the various kinds of educational requirements needed to pursue a career in technology. (MR)

ED 167 355 SE 025 404 Gillespie, Judith A.

A Plan for an Energy Curriculum for the Elementary Grades.

Indiana Univ. Bloomington Social Studies Development Center

Spons Agency - Indiana State Dept of Commerce, Indianapolis Energy Group, Indiana State Dept of Public Instruction, Indianapolis, Div of Curriculum

Pub Date-Jun 78 Note-48p.

Pub Type - Guides - Classrooth - Teacher (052)

EDRS Price MF-\$0.83 IIC-\$2.06 Plus Postage.

Descriptions - Conversation Education. *Cur.

Descriptors - Conservation Education, *Curriculum Development, *Elementary Education, *Energy. *Energy Conservation. Environmental Education, Fualuation, Information Dissemination, Science Education

This document is an outline of a project to deve-lop evaluate, and disseminate a set of curriculum materials for use in the elementary (K-6) grades. This paper sketches the role of schools in the energy

problem, outlines goals and objectives for curficulum activities, and develops a plan for the con-tent and use of the materials. Strategies for both dissemination and evaluation are discussed. Finally. it points out some links between this project and other efforts in the field, both in and outside of schools. (TM)

ED 167 402 SE 026 789 Interdisciplinary Student/Teacher Materials in Energy, the Environment, and the Economy: Energy and Transportation, Grade 3, Draft Copy.

National Science Teachers Association, Washingtog, D.C

Spons Agrney—Department of Energy, Washington, D.C.

Report No.—HCB/U-3841-0001 Pub Date—Doe-77 Contract—EX-76-C-10-3841

Note—1189. Contains light and broken type Available from—L.S. Department of Energy, Tech-nical Information Office, P.O. Box 62, Oak Ridge.

nical Information Office, P.O. Box 62, Oak Ridge, Tennessee 3"830 (no price ouoted). Pub Type—Guides · Classroom · Teacher (052). EDRS Price MF-\$0.83 HC-\$6.01 Plus Postage. Descriptors—"Cutriculum Enrehment. Elementary Education. Energy. "Energy Conservation. Environmental Education. "Grade 3. Interdisciplinary Approach, Pollution. "Transportation Identifiers—"Energy Education. "Project for an Energy-Enriched Curriculum This publication is part of s series of instructional units produced by NSTA's Project for an Energy-Enriched Curriculum This unit presents the variety Enriched Curriculum This unit presents the variety

Enriched Curriculum This unit presents the variety of transportation modes and tries to assist students in understanding the effects of transportation on their world. The main concern of the unit is with fossil fuel consumption. The seven activities presented here also include topics of pollution and transportation history (MR)

ED 167 449 SO 011 523 Energy and Conservation Education: Activities for the Classroom, Grades 2-3. Energy and Man's Environment. Inc., Portland.

Pub Date-

Note-366p, For related documents, see SO 011 524-529

Available from-Energy and Man's Environment, 0224 S.W. Hamilton, No. 301, Portland, Oregon

97201 (\$24.00)
Pub Type— Guides - Classroom - Teacher (052)
EDRS Price MF-\$0.83 Plus Postage, HC Not Apallable from EDRS.

Againate from EDRS.

Descriptors—Class Activities, Classroom Games, Concept Teaching, *Conservation Education, Depleted Resources, Educational Objectives, Elementary Education, *Energy, *Energy Conservation, *Environmental Education, Environmental Influences. Fuels, Futures (of Society), Grade I. Grade 2. Grade 3. Instructional Materials. Interdisciplinary Approach. *Learning Activities, Natural Resources, Social Studies. Student Evaluation. Teacher Developed Materials. Teacher Conference Confere ins Gurdes

The instructional materials and classroom activities described in the document are intended to aid teachers in grades one through three develop and implement educational programs dealing with energy-related issues. The document is presented in four sections. Section I explains the organization of the document and summarizes how teachers should tm-plement activities and assess student performance. Section II consists of a matrix of activities described in the document Information is presented on grade level, time required, and subject matter. Section III describes learning activities in six areas. (1) sources of energy. (2) base of energy, (3) conversion of energy from one form to another, (4) impact of energy use on the environment. (5) limits of the earth's resources, and (6) the future. For each activity, information is presented on title, concept, time, imtormation is presented on title, concept, time, im-plementation, materials, and opional activities. Activities involve students in posing and anawering questions, role, playing, viewing and discussing films, comparing samples of energy sources, completing handouts, coloring, defining terms, playing educational games, and writing stories. The final chapter presents information on student assess-ment Topics discussed include suggested lest items. how to use suggested test items, and ongin of test items. (DB)

SO 011 524 Energy and Conservation Education: Activities for the Classroom, Grades 4-6. Implementation Handbook.

Energy and Man's Environment, Inc., Portland. Oreg. Pub Date-

ate-78
-433p. For related documents, see SO 011 Note-43: 523-529

Available from-Energy and Man's Environment, 0224 S.W. Hamilton, No. 301, Portland, Oregon 97201 (524 00) 97201 (\$24 00)

Pub Type- Guides - Classroom - Teacher (052) EDRS Price MF-50.83 Plus Postage, HC Not Available from EDRS.

Available Front EDRS, escriptors—Class Activities. Classroom Games. Concept Teaching. *Conservation Education. Depleted Resources. Educational Objectives. Elementary Education. *Energy. *Energy Conserva-Descriptorstion. Environmental Education. Environmental Influences, Fuels, Futures (of Society), Grade 4, Grade 5, Grade 6, Instrustional Materials, Interdisciplinary Approach. *Learning Activities, Natural Resources, Social Studies, Student Evaluation, Teacher Developed Materials, Teacher Control of the Control of ing Guides

The instructional materials and classroom activities described in the document are intended to aid teachers in Brades four through six develop and implement educational programs dealing with energy-related issues. The document is presented in four sections. Section I explains the organization of the document and summarizes how teachers should implement activities and assess student performance Section II consists of a matrix of activities described in the document, information is presented on grade level, time required, and subject maiter. Section III describes learning activities in six areas (1) sources of energy. (2) uses of energy. (3) conversion of energy from one form to another. (4) impact of energy use on the environment. (5) limits of the earth's resources, and (6) the future For each activity, information is presented on title, concept, time, im-Plementation, materials, and optional activities. Activities involve students in working crossword puzzles, completing handouts, discussing energy isaues in class, comparing energy sources, working on library research projects, designing and testing kits and windmills, defining energy terms, playing educational games involving energy conversion systems and pollution, and performing simple scientific ex-periments dealing with wind power, solar energy, and soil types. The final chapter presents information on student assessment. Topica discussed include suggested test items, how to use suggested test items, and origin of test items. (DB)

ED 168 725 PS 010 504 Braun, Bonnie Wilson, Elaine Energy Education: The MIZER Series.
Oklahoma State Univ., Suilwater. Div. of Home Economies.

Note-67p. Special funding was provided by the Presidential Challenge Grant of Oklahoma State

University.

Available from-Student Union Bookstore. Oklahoma State University. Stillwater. Oklahoma 74074 (\$3.00)

Pub Type—Guides · Classroom · Teacher (052) EDRS Price · MF01/PC03 Plus Postage.
Descriptors—Early Childhood Education, *Energy, *Energy Conservation, Home Palagrams, Kindergarten Children, *Leatning Activities, Parent Participation. Preschool Children

This preschool curriculum guide for energy edu-cation provides concepts and activities designed to develop an awareness of energy, an interest in understanding energy and a sense of ability and fesponsibility to use energy wisely. The guide Provides language, science, math, social studies, art, physical education and music experiences appropriate for small or large groups of children. An ageless non-sexist MIZER sun-symbol (a pupper or bulletin board figure) is essential to the program as a means board figure) is essential to the program as a means of personifying abstract concepts and integrating diverse activities. The guide has five major sections organized around the ideas of understanding basic energy transfer, using Energy, wisely and sources of energy. Letters from MIZER are included in the fifth section as a means of extending the school-based program to activities and games for the family at home. Field testing suggests that progress through the curriculating suggests when the progress through the curriculating suggests. through the curriculum should be slow in order to

give the children and their families time to acquire and respond to the energy education ideas and ac-ivities. Simple activities and basic materials proved better than more elaborate implementations for instructing young children. A Household Energy Management Checklist and a family survey letter are included in the guide. (Author/RH)

ED 169 256

CE 020 083

Brayton, Pat Tutton, Joyce

My Environment, Grade 2. One in a Series of Career Development Curriculum Units for the Elementary Classroom. (Second Edition).
Coloma Community Schools, Mich.

Spons Agency-Michigan State Dept. of Educa-tion, Lansing.

Pub Date-75

Contract -- 300-77-0303

Note-63p.: For related documents sec ED 161 102 and CE 020 072:101

Available from—Project CDCC Cleannghouse, P.O. Box 218, Coloma Community Schools, Coloma, Michigan 49038 (\$2.25; set of 27 units, \$55,00)

Pub Type— Guides · Classroom · Teacher (052) EDRS Price · MF01/PC03 Plus Postage.

Descriptors—"Behavioral Objectives, "Career Development, "Career Education. "Environment, Grade 2, "Instructional Materials, "Learning Activities, "Perceptual Development, "Self Concept, Validated Programs
Identifiers—Career Development Centered Curriculum Project, Education Amendments 1974, Michigan (Calena)

Michigan (Coloma)

Focusing on self awareness (environment), this unit entitled "My Environment" is one of four grade 2 units which are part of a total set of twenty-seven career development curriculum tinus for grades K-6. This unit is organized into four sections, Section 1 identifies one eateer development/centoted eurneulum (CDCC) element (realistic self-concept formulation), one career development theme (the student will become more aware of his/her own uniqueness as a result of learning, growth, and matustion), one unit goal (the student will become more cutely aware of his/her environment through his/her senses), and five performance objectives Phis/her senses), and five performance objectives (e.g., given four sets of pictures of two items each, the student will identify one term from each set by using only the sense of touch). Also included in Section I are evaluation procedures, five student evaluation sheets, and evaluation tabulation forms for the unit. Section II describes teaching strategies for five put tubbonist (expetitles) and analysis. for five unit subtopies (capsules) and includes suggested resources for teaching each one. Example capsule littles are awareness of our environment through hearing, and awareness of our environment through seeing. Section III contains two teacher ref-erence sheets, and section IV contains seven student activity sheets. (JH)

SE 027 629

SE 027 629
Schaefer, Larry, Ed. Hungerford, Nancy, Ed.
Earthwatch: Designing Environmental Education
Into the Cutriculum, Volume I, Grades 3-5.
Atea Cooperative Educational Services, New
Haven, Conn Environmental Education Center,
Spons Agency—Connecticut State Dept of Environmental Protection, Hartford., Office of Education (DHEW), Washington, D.C. Office of
Environmental Education.
Pub Date—78

Environmental Education.
Pub Date—78
Note—438p. For related document, see SE 027
630. Contains occasional light and broken type
Pub Type— Guides · Classroom · Teacher (052)
EDRS Price · MFDI/PC18 Plus Postage.
Descriptors—*Activity · Units. Curriculum,
Eurlogy. Elementary Education. Energy. *Environmental Education. Instructional Materials. Intermediate Grades: *Language Arts.
Mathematics. Population Education. *Science
Activities. *Social Sciences. Technology. Values
This environmental education activities package
for grades 3-5 contains activities in the following
curriculum areas-(1) social science. (2) science: (3) curriculum areas-(1) social science. (2) science: (3) language arts; and (4) mathematics. The activities are divided into social science social social science are propulation. (3) energy and resources. (4) economics, technology and culture. (5) environmental quality; (6) environmental quality; (6) environmental science are social science.

mental policy; and (7) environmental ethics. Each activity gives the curriculum topic, the environmental topic, a list of skills esercised in the activity, the

out the activity, the author, the objective, back-

subject, grade level, the location necessary to

ground information for the teacher, materials, a vecabulary list, and some related activities and resources (BB)

ED 170 152

ED 170 182
Schoejer, Larry, Ed Hungerford, Nancy, Ed.
Barthwatch: Designing Environmental Education
Into the Curriculum, Volume 11, Grades 6-8.
Area, Gooperative Educational Services, New
Haven, Conn. Environmental Education Center.
Spons Agency—Connecticut State-Dept of Environmental Protection, Harnford; Office of Education (DHEW), Washington, DC Office of Environmental Education. Environmental Education.

Pub Date-78

Note-643p: For related dogument, see SE 027 629: Contains oceasional light and broken type; Pages 456-458 and 480-481 removed due to copyright restrictions

nght restretions
Pub Type— Guides - Classroom - Teachtr (052)
EDRS Price - MF03/PC26 Plus Postage,
Descriptors— Activity Units, Curriculum,
Ecology, Elementary Secondary Education, Energy, "Environmental Education, Instructional
Materials, Junior High School Students, "Language Arts, Mathematics, Population Education,
"Science Activities," "Social Sciences, Technology, Values
The environmental education activities package
for grades 6-8 contains activities in the following

for grades 6-8 contains activities in the following curriculum areas (1) social science. (2) science. (3) language aris and (4) mathematics. The activities are divided into seven sections based on seven enviconmental topics: (1) ecosystems: (2) populauon. (3) energy and resources. (4) economies technology and culture, (5) environmental quality, (6) environmental policy, and (*) environmental ethics Each actuaty gives the eurneulum ropic, the environmental topic, a list of skills exercised in the activity, the subject, grade level, the location necessary to carry out the activity, the author, the objective, background information for the leacher, materials, a vocabulary list, and some related activities and resources. (BB)

ED 171 807 UD 019 197

Salter. Christopher L. And Others Scoring Los Angeles Landscapes: Environmental

Education in an Urban Setting.
California Univ. Los Angeles Urban Environmental Education, Project.
Spons Agency—National Endowment for the Humanities (NFAH). Washington, D C

Pub Date-78 Note-112p. Not available in hard copy due to marginal reproducibility of original document Pub Type— Guides - Classroom - Teacher 1052) EDRS Price - MF01 Plus Postage, PC Not Asaliable from EDRS.

Descriptors—Activity Units, "Elementary Educa-tion, "Environmental Education, "Institutes (Training Programs). Teacher Education. "Urban Areas. "Urban Education Identifiers.—"California (Los Angeles)

This notebook serves as a guide for learning activities in environmental education. Tweive themes are treated in four groups. (1) sense of place includes history and landscape, (2) the natural environment covers air, water, energy, and landforms. (3) the built environment includes architecture. Wonsportation, and housing, and (4) the social environment covers population, politics, and planning. Each unit contains a theme spect and 3 topic outline. Many units also contain worksheets and activity-guidelines. (MC)

ED 173 086 SE 027 871

Gillespie, Judith A.

An Energy Curriculum for the Elementary Grades, Unit 1 - Energy and You, Last 11 - Energy and Your Community, Unit 111 - Energy in Action,

Your Community, Unit III - Energy in Action, Indiana State Dept of Commerce, Indiana Pulis Energy Group. Indiana State Dept of Public Instruction, Indiana State Dept of Curriculum.

Spony Agency Department of Energy, Washington, D.C

Pub Date - May 79

Grant - DOE-EW-78-G-45-0042

Note - 519p. For related document, see ED 167
355; Contains occasional light, and braken type.

Note -519p. For related document, see ED 167
355: Contains occasional light and broken type.
Pub Type-- Guides - Clavitioni - Teacher (052)
EDRS Pelce - MF02/PC21 Plus Postage.
Descriptors - Commissing Problems - Talens crary
Education. "Energy, "Energy Conversations (Environmental Education." Life Style, Peoblems
Solving

Identifiers - "Energy Ediscation

The collection of materials is intended a created for the fineeds of elementary school reachers who have feels for resources for crery education. The document is divided juto there sections. The first scenion discusses human energy energy use in home and school, and the relationship of the main dual to the energy problem. A second section discusses the the energy problem. A second section discusses the role of cociety in the community, the conserver rate managery production and the existence of energy use different The third section covers the croduction of energy, some deprecaches to saving energy problems, and the impact of energy acts atoms in the social and physical environment of the future. Each lesson includes suggested aduptations for stack lessol through outside the lesson includes suggested aduptations. for grade level, language arts instruction, and mathematics instruction, (RE)

ED 174 432 SE 028 248 Bense. Beverly And Others First Steps in Ecology: A Guide for the Elementary

Grades.

Berkeley Unified School District, Calif Spons Agency—Office of Education (DHEW), Washington, D.C. Pub Date - 75

Note-1279; Document prepared by the Ecology Center

Pub Type— Guides- Classroom - Teacher (052) EDRS Price - MF01/PC06 Plus Postage. Descriptors— Class Activities. Conservation (Engineering). "Conservation Education." Ecology.

*Elementary Education, *Environment, Environ-mental Education, *Instructional Materials Each of the 18 units in this collection addresses a

different environmental problem. An introduction precedes the eoflection of activities and appendices provide lists of forest animals and plants and lists of food uebs. A glossary is provided as is a bibliography. Each unit includes. (1) a list of objectives. (2) a summary. (3) a discussion of advance preparations including lists of materials. (4) teaching suggestions. (5) procedures. (6) alternative methods, and (7) suggestions for further activities involving various subject areas where appropriate (RE)

Hock, Nancy And Others
Selected Energy Education Activities for Pennsylvania Middle School Grades. Draft.
Pennsylvania State Dept. of Education, Harrisburg.

Spons Agency - Governor's Energy Council, Har-risburg, Pa.

Pub Date—79 Note—108p. Available from—The Pennsylvania State Urliv. 336

Available from —The Pennsylvania State Urliv. 336
Agricultural Administration. University Park. PA
16802 (no price quoted)
Pub Type— Guides · Classroom · Teacher (052)
EDRS Price · MFOI / POS Plus Postage.
Descriptors—Art Education. *Class Activities.
*Elementary Secondary Education. *Energy.
*Energy Conservation. *Environmental Education. Health Education. *Interdisciplinary Approach, Language Arts, Mathematics Education.
Science Education. Social Studies
Identifiers—*Energy Education
These activities are intended to help increase awareness and understanding of the energy situa-

awareness and understanding of the energy situaawareness and increase among of the energy stud-tion and to encourage students to become energy conservationists. The document is divided into sec-tions according to discipling areas A final section is devoted to interdisciplinary activities involving sev-eral discipline areas integrated with the energy lesson. Each activity description contains (1) discussion of grade level; (2) energy learning objective; (3) discipline area learning objective; (5) background information. (6) activity description, and (7) contact organizations for further assistance and information (Agrhor RE)

Have You Ever Been to the Shore Before' A Marine Education Infusion Unit. Northern New

Logland Marine Education Project. Maine Univ., Orono, Coli, of Education, Maine Univ., Orono, Sea Grant Brogram

Spons Agency—National Oceanic and Atmos-cheric Administration (DOC), Rockville, Md. National Sea Grant Program

Pub Date-78

Note-54p., For related documents, see SE 029 132-135. Not available in hard copy due to copyright restrictions Pub Type- Guides - Classroom - Teacher (052)

135

EDRS Price - MF01 Plus Postage, PC Not Availabic from EDRS.

Descriptors—Art Education, *Class Activities, *Earth Science, Ecology, Elementary Education, *Environmental Education, *Interdisciplinary Approach, Language Arts, Marine Biology, Mathematics Education, Music Education, Oceanology, Science Education, Social Studies

Identifiers-Ses Grant

This unit presents the teacher with guidelines and suggestions for a field trip to a shore. It contains information about what organisms and habitat to expect and appropriate activities. Also suggested are discussions of the people who live and work near the shore. A pre-trip planting section is Presented. Sections relating to each of several disciplines are presented, including objectives, materials, and procedures feating to the field trip and designed to portray concepts of the discipline. Appendices of resources and sites in northern New England are provided along with a bibliography. (RE)

SE 029 270 Menual for the CBE Environmental Education Kit

for the Middle Grades, Draft Edition, Brook age Community Coll. Lineroft, N.J. Com-muter for a Better Environment, Inc. Holmdel.

Spons Agency-Office of Education (DHEW). Washington, D.C. Office of Environmental Education.

Pub Date Grant-G007700522

Nore-143p. Contains occasional light and broken type, several pages removed due to copyright res-

initions
Pub Type—Guides - Clasaroom - Teachet (652)
EDRS Price - MF01/P06 Plus Postage.
Descriptors—Class Activities "Conservation Education. "Ecology, Elementary Secondery Education, Environment. "Environmental Education. Byvrongiertal Influences, Interdisciplinary Approach, Natural Resources, *Pollution, *Resource Materials. Sciance Education

The primary goal of this collection of classroom activities is to produce environmentally aware cititems. The skills and concepts taught through use of acts. The skills and concepts taught through use of the kill are intended to permit the teacher to yite, grate diverse concepts of the environment into elass own teaching. Activities are divided into three man sigments. The first segment. Ecological Concepts considers an ecosystem. The second segment. Filled on Activities, decis with the impact of human, and is on an ecosystem. The third segment. Outdoor Activities, suggests a set of problems which students can investigate outdoors. (Author RE)

SE 028 428

Lendier. Jacqueline L. And Others
Two Energy Gulfs, Grades 6-7. Interdisciplinary
Student Teacher Materials in Energy, the Environment, and the Economy.

National Science Teacheri Association, Washing.
ton, D.C.

ton, D.C.

Spons Agency—Bureau of Inscrigovernmental and
Institutional Relations (DOE), Washington, D.C.

Office of Edocation, Business and Labor Affairs.

Report No.—HCP/U3841-03

Put Dato—Mar 79

Contract—EX-76-C-10-3841

Note—94p.

Available from—U.S. Department of Energy, Technical Information Center, P.O. Box 62, Oak Ridge, TN 37830 (n.) Price quoted)

Pub Type— Collected Works - Serials (022) —
Guides - General (050)

EDRS Price - MF01/PC04 Plus Postage.

Descriptors—Economies. Elementary School Science. "Energy. Environmental Education, Fuel Consumption. "Interdisciplinary Approach. "Intermediate Gredes, Maps. Science Curriculum, "Science, Instruction, "Social Studies, Worksheets Worksheeu

This text, which focuses on coastal oil production, the countries and the people involved, is designed for use in upper elementary science, social analies, or math courses concerned with energy-related topics. The first half of the text is the Teacher's Guide. It presents an overview of the main ideas for each lesson, strategies for implementation, objectives, materials, and answer keys to student worksheets. The second half is the Student's Guide, including maps, graphs, worksheets, vocabulary, and articles.

to read. The unit introduces the methods by which oil is extracted from the Persian Gulf region and the Gulf of Mexico resion Transportation by super@ tankers, energy needs of the people of both regions, and oil production is discussed. A comparative ap-proach to the people of each region stresses the divernity of cultures and is intended to capand chil-dren's views of culture. The interdependence of people and energy is emphasized. (SA)

C\$ 005 193 Contpe. Stephen L. Crisis Game. Pub Date—17
Note—17p.
Pub Type—A Reports - Descriptive (141) — Guides
- Classtoom - Learner (051)
EDRS Price - MF01: PC01 Plus Postage.
Descriptors—Educational Games. Elementary
Education, "Energy Conservation. Monvation.
Reading Games. "Reading Instruction, "Reading Materials. "Nocabulary Development
The "Crisis" game that is described in this paper is designed to Present children with a vocabulary of terms commonly heard when people discuss the energy of the commonly heard when people discuss the energy of the commonly heard when people discuss the energy of the commonly heard when people discuss the energy of the commonly heard when people discuss the energy of the commonly heard when people discuss the energy of the commonly heard when people discuss the energy of the commonly heard when people discuss the energy of the commonly heard when people discuss the energy of the common of Pub Date-77 terms commonly heard when people discuss the energ) Problem, and to provide an immediate use and reinforcement of those terms in a low-risk Same situation -Included in the description are the directions for piasing the game, an infustration of the board, "crisis and "ditermina" eard statements, and five vocabulary activities with answer keys. (RL)

FD 182 180 SE 029 9:5 Johnson, Bette Swinton, Olivia Networks: How Energy Links People. Goods and Services. Grades 4. S. Interdisciplinary Student-Teacher Viaterials in Energy, the Environment,

and the Economy. National Science Teachers Association, Washing. ton. D.C.

Spons Agency—Department of Energy, Washington D C Office of Education, Business and Labor

Report No.—HCP/U3841-0005 Pub Date—Jun 79 Contract—EX-76-C-10.3841

Note-94p. For telated document, see ED 153 859 Available from-US Department of Energy, Tech. nical Information Office. P.O. Box 62. Oax Ridge. TN 37830 (no price quoted)

TN 3"839 (no pace quoted)
Pub Type— Guides - Classroom - Learnet (051) —
Guides - Classroom - Teleher (052)
EDRS Price - MFOL PC04 Plus Postage.
Descriptors—Electricity, "Elementary Education."
Energy. Grade 4— Wadde 5 "Instructional Majorials. Integrated Curnelistum "Science Education." Social Studies. "Teaching Guides.
The nurrouse of this unit is a prochastical or simple.

The purpose of this unit is to misestigate a simple network and to make an ansige, with simulat man-made worlds. The lessons initials and man-made worlds. The lessons initials amit do evop the network idea around a simple electrical d stribution systemates we depend on and also is to further consideration of electrical energy lise. The net-work idea in the later lessons emphasizes the inter-dependence of the man-made network for producing and distributing electrical choray and the natural ecological network. In the first esson, me consuming end of the network is examined and some strategies for concuming electrical energy are examined Students should learn that energy netexamined students should learn that energy net-works such as the electineal encurs are a incressary part of modern life. They are also expected to learn about sources, conversions, and uses o' electrical energy. There are six lessons in this fourth, and fifth-grade unit. Complete leacher and student materials are provided. (BB)

ED 182 763 CS 205 426 Bagnall Norma Children's Literature-Passanelto the Sea.

Children's Literature-Passare to the Sea.

Texas A and M Univ., College Station.

Spots Agency-National Oceanie and Atmospheric Administration (DOC). Rockville. Md. National Sea Grant Program.

Report NO.—TAML-SG.80-401

Pub Date—Feb 80

Grant—NA79AA-D-00127

Note-62p. Available from -Sea Grant College Protram, Texas A & M University, College Station, TX 27843 Pub Type- Guides - Clastroom - Teacher (052) EDRS Price - MF01 Plus Postare, PC Not Available from EDRS.

Descriptors—"Childrens Literature, Ecology, Ele-mentary Education, "Learning Activities, "Liter-ature Appreciation, Teaching Guides, Teaching Methods

locatifiers— Marine Boucation

Focusing on books that use the sea as their theme, this booklet provides guidelines for teachers on how to integrate manne-related children's literature into the classroom. The first section of the booklet prethe classroom. The first section of the booklet pre-sents brief synapses of cight sea-related books while the second section contains 39 learning center ac-sivities, including knot tying, model building, soap carring, weaving, wood construction, and wood painting. Each activity is related to a specific grade level and book and includer's list of required materi-als, preparatory suggestions for the teacher, and in-structions for the students. Appendices contain worksheets and districtions for use path the serveworksheets and illustrations for use with the activities lists of sources for free and low cost traterials, and a bibliography of marine-related books. (FL),

ED 187 554 An Energy Curriculum for the Viddle Grades, Unit Oneto-Energy and World Cultures With Adapta-nons for Science, Language Arts, Praefical Arts.

nons for Science. Language Arts. Fractical Arts. Indiana State Dept of Commetce, Indianaspois, Energy Group. Indiana State Dept of Public Instruction. Indianapolis Div. of Curriculum Spons Agency—Department of Energy. Washington, D.C.
Pub Date—Apr 80
Grant—DE-FG-45-79R510071
Note—229p.: For related document, see SE 030
941 Contains occasional broken type

941 Contains-occasional broken type

Pub Type—Guides - Classroom - Leasuer (051) —
Guides - Classroom - Teacher (052)

EDRS Price - MF01/PC10 Plus Postage.
Descriptors—Conservation Education. Cutriculum

Development. Economics, Elementary Second-ary Education. Energy. Energy Conservation, Environment, Environmental Education, Fuel Consumption. Fuels Geography, Instructionals. Materials. Interdisciplinary Approach. "Language Arts. "M., Line Schools. Natural Resources, Petroleum Industry. "Science Education. Social Studies, Technology, World Problems Identifiers—"Energy Education.

This guide is intended to help teachers integrate energy education into middle schools or junior high schools. A teache: a section includes an introduction bibliograph), and glossary Theteafter, teacher materials sections and student materials sections are paired under topical headings addressing worldwide energy issues. Energy is the are addressed for Africa. Asia, Europe, and the Middle East, Islands are Dibuted for adopting lessons within the tions are provided for adapting lessons within the topical headings for integration into science. Janguage atta. and practical aris curricula. (RE)

ED 188 008 CE 025 846 Beology and Energy Action Pack.
Dayton Museum of Natural History, Ohio, McDonald's Corp., Oak Brook, Ili Pub Date-77 Note-36p . For related occuments see CE 025 302

and CE 025 817-819

and CE 025 817-819
Available from - Mazer Corp. 2501 Neff Rd., Dayton, OH 45-14 (\$3.00
Pub Type - Guides - Classroom - Learner (051) - Guides - Classroom - Traciner (052)
EDRS Price - MF01 Plus Postage, PC Not Available from EDRS.

ble from EDRS.

Die from EDRS.
Descriptors.—"Consets a. on tEnsaronments.
"Ecology. Elementary Education "Energy. "Environmental Education Instructional Materials.
Learning Activities. "Natural Resources. Recycling, Waste Disposal, Water Poliumon
One of five MeDanald's Aut.on Parks, these ele-

杨

mentary school-level instructional materials are for use as an introduction to existing units of study. projects for controlled in Eviding units at that, supplements to a testion, and a coarce of special projects for controlled in Ecology. Minispinner, Tet's Look at a Final Chain, Drip, he water Drop and Save Me. 3 Ners short History of Trash and How Paper is Recycled. Be an Ecology Champron, and Burry Bec's Losy founde to Energy Each and How Paper. Each unit may include some or all of the following background ideas that Juliuss purpose of the followingenericity, discussion of the activity, suggestions for use of the student activity sheets, and additional activities. Reference is made within the units to acticits sheets provided at the back, which are suitable

ERIC

for reproduction. A copy of a transparency recom-nended for use in one unit is also provided, IYLB)

BTU 190 344

Se 030 975

BYUNGIME. Hendy And Others

BTU (Better Than Usual) Teacher Descloped

Energy Materials for Elementary & Middle
Schools, Draft.

Manigan State Univ., East Lansing Cooperative

Extension Service: Michigan State Univ., East
Lansing, Scienze and Mathematics Teaching Cen-

Spons Agency - Department of Energy, Washington, D.C.: Michigan Dept. of Commerce, Lansing, Michigan State Energy Extension Service. ansing.

Pub Date—79-Grant—EC-77-6-01-5092

Grant—EC-77-6-01-5092
Note—169p.: For telated documents, see SE 030 976-985 and ED 180 774 Contains occasional light and broken type
Pub Type—Guides - Classroom - Teacher (052)
EDRS Price - MF01/PC07 Plus Postage.
Descriptors—"Class Activities, Curriculum Development, "Elementary Secondary Education, "Energy, "Energy Conservation, Environmental Education, Fuel Consumption, Fuels, "Interdisciplinary Approach, Middle Schools, Natural Resources; Public Policy, "Science Education, Technological Advancement, Technology Technological Advancement, Technology

Ideotifiers- Energy Education

This draft collection of energy education units is intended for use from elementary glades through middle school grades. It contains 17 units addressing current energy issues. Each activity includes an activity description, objectives, content, materials list, vocabulary list, energy concepts, and further information to aid the teacher in incorporating the information into the overall curriculum Patterns and copy masters are included. (RE)

ED 190 346 SE 030 977

E.D. 190 346

SE 030 977

Berkheimer. Glenn D. Caldwell. John

It Isn't What You're Got. but How You Use It or

Energy and Efficiency. Teacher's Guide and

Student Guide. Net, Energy Unit. Draft.

Michigan State Univ. East Lansing. Cooperative

Extension Services, Michigan State Univ. East

Lansing. Science and Mathematics Teaching Cen
ter.

Spons Agency - Department of Energy, Washington, D.C., Michigan Dept of Commerce, Lansing Pub Date-28 Ma; 79

-EC-77-6-01-5092:

Note—22p. For related documents, see SE 030, 975-985 and ED 180 774.

975-985 and ED 180 774.
Pub Type—Guides: Claistroom - Learner (051) —
Guides: Claistroom - Teacher (052)
EDRS Price: - MF01/PC01 Plus Postage.
Descriptors—"Clais Activities: "Curriculum Development. Decision Making: Elementary Education "Energy "Energy Conservation Environmental Education..."Interdisciplinary Approach. Natural Resources. Physics. Public Policy: "Science Education. Seience Instruction. Social Studies. Technology Identifiers—"Energy Education
This unit is intended to introduce the ideas of

This unit is intended to introduce the ideas of interaction and systems and their relationship to energy. The concept of energy is developed to in-clude energy sources, energy receivers, energy transfer, energy chains, and efficiency. The unit is intended for use in two class petiods and relates so concepts of science and social science. Numerous charts, tables, and illustrations are provided. (RE)

SE '032 954 ED 193 053

Reading via Environment. Lee County Scaool District. Fort Myers Fla Spons Agency—Florida State Dept. of Education. Tallahassee. Office of Environment Education. Pub Date—7

Tallahassee, Onice of American Pub Date—17
Note—107p
Pub Type— Guides - Classroom. Learner (051)
EDRS Price - MF01/PC05 Plus Postage.
Descriptors—Basic Skills. *Elementary Education. *Ensirforment. Environmental Education. *Language Skills. Outdoor Education. Reading Games. *Reading Instruction. Reading Skills. Vocabulary Skills. *Writing Instruction. Writing Skills.

Described are over 100 activities designed to improve students' reading and writing skills by using the school, loval

community, family, and inner self serve as lesson topies. Learning strategies include word games, poetry, art projects, peer-produced ministeris, and gardening. Also used are a word builder booklet and gardening. Also used are a write periods contect and set of student reading eards, which san constitute complete lessons, supplementary lessons, or parts of other lessons. A graph for estimating reading level is provided so that teachers can adapt activities jot students of different abilities. (WB)

ED 193 0S8 SE 032 960

4nd Others Maier Jaseph T More. Josob F And Others

Ensigonmental Education Interdisciplinary Concepts and Activities Guide, Grade 2.

Pincilis Coving School Board, Clearwater Fla

Spons Agency—Fiorida State Dept of Education,

Tallahassee Office of Environment Education

Pub Date—76
Note—103p , For related documents, see SE 032
961-962.

961-962.
Pub Type— Guides - Classroom - Teacher (052)
EDRS Price - MF01/PC05 Plus Postage.
Description— Art Activities. "Ecology Elementary Education "Elementary Sanool Science.
"Environmental Education, Fundamental Con-

Resultion Science Resputer Varetials Science Education, Science Instruction Processed are environmental education lessons and eld for use in the second-grade classes of Pinellas County Education Variables are drawn from countries for some concertal schemes provide the galdes organizational framework, interrelationaries retedily and environment, anange, effects of some area givents, finite fessorters and individual responsibility. Fortowing a discussion of each streme are withness of related activities. These earthing experiences include att projects, science experiments class discussions, and three student in electronics. Also provided are illustrated test sheets Authorities provided are illustrated test sheet with accompanying questions for the teacher to ask INBI

ED 193 089.

If a colored T. And Others

Environmental Education Interdisciplinary Conferences and Activities Guide. Grade 3.

Pincials County School Board, Clearwater, Fla.

Sept. Agency—Florida State Dept. of Education.

To chasses Office of Environment Education. Sinch Agrico Freezing documents Education.

The chassed Office of Environment Education.

Pur Date—6

Note—102p. For related documents, see SE 052
960-962 Contains occasional light and broken

969-962 Contains occasional light and broken to 20
Pub Type— Guides - Classicom - Teachet (052)
EDRS Price - MF01/PC05 Plus Postage.
Peturproise—Art Activaties, "Ecology, Elementary Equation "Elementary School Science, "Environmentar Education, Fundamental Concerts, Grade 2 Interdisciplinary Approach, Natural Resources Outdoor Education, "Resource Alateries, Science Education, Science Institution lessons Especial for use by third-grade teachers in Pinelias County, Fortida any conceptual schemes provide the manuals of vigaritational framework interrelationspips, nerved by and environment, change, ef-

termonps, rerectly and environment, change, effects of perpetation growth, finite resources and environmental temporarility. Following a discussion of each scheme are outlines of related aemistics. These carning experiences utilitie outdoor studies. Cass defended audiovisial materials, and games to help students understand some ecological concepts and environmental management Froblems. aevera, evamples are drawn from local situations.

SE,032 963 ED-193 060 Marce Joseph T And Others

Environmental Education Interdisciplinary Con-cepts and Activities Quide. Grade 8. Pileous Gounty Sunson Board, Conwater, Fia 20075 Agreey Florida State Dept of Education, Thursdayee Office of Environment Education.

about Agrey - Florida State Dept of Education.
Thumbased Office of Environment Education.
Pub Date - 6
Nite - 16 p. For felated documents, see SE 032
of local Parts may be marginally legible.
There of Lace - Cabstoom - Teacher 1052)
EDRS Pilice - NFOI PCOS Plus Postage.
Descriptor - Ecology - Environmental Education, Fordametral Concepts, Grade 8, Junior H. D. Subrasia, Natural Resources, Resource Materiae Science Education, Secondary School Science, Social Stadies
Presented are environmental education lessons.

adapted to use in the jumin high schools of Pineilas Courty. Florida. This manual is organized accord-ing to six concentual schemes, interrelationships. nig 5 % concertual entergel effects of population and environment entergelettes of population from the terromagn entergence of population from the terromagn to Country of the atendant testing of the enterge of the atendant testing experience of the atendant population of the enterge experience of the enterge of the entergence of the enterge of the entergence of th 2000 aval environmental concerns (WB)

ED 193 062 Brennan, Malliew J SE 032 964 Energy and My Environment: K-6 Teachers' Guide. Dreft.

Governor's Energy Office, Tallahassee, Fla.

Spons Agency—Florida State Dept of Education,
Tallahassee, Office of Environment Education

Pub Date—No. 79
Note—142p: For telated document, see SE 032
965 Contains occasional light and broken type.

Pub Type—Guides. Classroom. Teacher (052).
EDRS Price. MF01/PC06 Plus Postage.
Descriptors—Elementary Education. Elementary
School Satence. "Energy, Energy Conservation.
"Environmental Education." Resource Materials. Science Education, Social Studies Identifiers—"Energy Education

One hundred energy education activities com-prise this manual for elementary school teachers, Two or three lessons, which deal with each of seven energy-related contentual schemes, are provided for every grade level. These experience-officored aclivities emphasize Questions, Objets attons, and class discussion. Lesson plans include diffections for introducing and developing the activity, suggestions for extending the learning experience, and a listing of the lesson's concept and objective. (WB)

· SE 033 196 ED 194 3\$2 Krukowski, Pat. Ed. And Others
Energywatch: Designing Energy Education Into
the Curriculum, Volume 1 - Grades K-6.

Area Cooperative Educational Services, New Haven, Conn : Connecticut State Dept. of Educa-

Haten, Conn : Connecticut state Devictor Education, Hartford.

Pub Daré—Nov 80

Grant—NESEC-EG-77-G-01-4044

Note—262p: For related document, see SE 033 Note—262p: For related document, see SE 033
497. Some copyrighted cartoons detected. Endingly, received from the Northeast Solar Energy Center.
Available from Dr. Sigmund Abeles, Connecticut.
State-Dept-of, Education. Box 2219. Hartford, CT
06115 (no price guoted).
Pub Type—Guides. Classicom. Teacher (052)
EDRS Price MF01. PC118 flip, Postage.
Descriptors—Conservation Education, Elementary.
Education, "Elementary School Science. "Encigy, Energy, Conservation. "Environmental Education." Instructional Materials. Interdisciplinary.
Approach. Science Education, Science Instruc-

Approach, Science Education, Science Instruc-tion, Social Studies Contained in this teacher's manual are over 40 energy education activities for elementary school students. Lessons are designed for science, social, studies, mathematics, and language arts classes. This approach is intended to allow teachers to con-This approach is intended to allow leachers be provide students with energy-related learning opportunities throughout the school program as exist of courses that are already being raught. Activities are organized under six major topic headings 1.1 Energy. The Convept. (2) Energy Sources. (2) Energy Uses. (4) Energy Conservation. (5) Energy and Economics and (6) Energy and the Environment Learning strategies employed tange from class discussions, and values elartification experiences to model building, performing experiments, and using resource materials. Lesson plans include objectives, skills, background information for the reacher, reskills, background information for the teacher, re-quired preparation, references, student kangouss. and step-by-step procedures for earrying out line activities. (WB)

ED 196 724 SE 033-934
The Litter Problem. Environmental Education
Supplementary Instructional Guide, Elementary

Supplementary Instructional Sunaction. Honolulu Office Level,
Hawait State Dept of Education. Honolulu Office of Instructional Sensices.
Report No.—RS. *9-8218
Pub Date—Sep 70
Nate—**7p : For related document, See SE 037 935.
Pub Tyee — Guides : Classroum** Teacher (052)
EDRS Price : MF01-PC04 Plus Postage.
Descriptors—Community Action. **Community

ERIC

Problems, Elementary Education, *Environmental Education, Instructional Materials, Social Studies dies. Student Projects. Student Responsibility. *Waster Disposal. *Waster

Presented is a guide for helping elementary school students become sware of the litter Problem, acquire litter control skills, and develop an anti-litter other the manual cortains a hierarchy of learning objectives a pretest positest instrument background information on litter, and 12 lessons designed to promite attainment of the learning objectives. Each lesson includes brief outlines of content, instruc-tional seen dies, and assessment tasks. A glussary, seve al supplementary learning settleties, and a list of additional resources comprise the appendix (WB)

ED 198 005 SE 034 291

ED 198 UUS
Meleher, Joan And Others
Connections: A Curriculum in Appropriate Technology for the Fifth and Stath Grades,
National Center for Appropriate Technology, Butte, Mont.

Spons Agency—Community Services Administra-tion (DHEW), Washington, D.C.

Pub Date—80
Note—114p.: Oversize chart "Appropriate Technology - Ideas to Grow With" removed due to irreproducibility.
Available from—National Center for Appropriate Technology, P.O. Boa 3838, Butte. MT 59701 (\$5.00).

(\$5.00). Pub Type—Guides - Clasaroom - Leamer (051) — Guides - Classroom - Teacher (052) EDRS Price - MFBI/PC05 Plus Portage. Descriptors—"Energy. "Environmental Education, Interdisciplinary Approach, Intermediate Grades, "Life Style, Recycling, "Science Education, Science Instruction, Social Studies, "Technology Identifiers—Alternative Forces Santones "Annual Conferences Annual Conferences Conferen

Science instruction, Social Studies, Technology Identifiers—Alternative Energy Sources, "Appropriate Technology Appropriate technology is an approach to meeting human needs which stresses local solutions using small-scale decentralized technologies that have minimal environmental impact. Presented in this nanual are 10 lessons for upper elementary students that consider such topics as recycling, solar energy, transportation, and nutrition. Each lesson includes teacher background information, class activities, homework, discussion topics, and a brief qua. Accompanying these materials are illustrated student handouts that may be duplicated. Also provided are auggested student readings, and a list of other sources of teaching materials. (WB)

ED 199 096 SE 034 447 Allen, Rodney F., Ed.

Hardee County Energy Activities - Middle School

Tri-County Teacher Education Center. Sebring.

Spons Agency—Florida State Depthof Education: Tallahassee. Office of Environment Education. Pub Date—[81]

Note-59p.; Contains occasional light and broken

Note—Syp.: Contains occasional light and broken type.

Pub Type—Guides · Classroom · Teacher (952) · EDRS Price · MF01 PC03 Plus Postage.

Descriptors—Basic Skills. Elementary Secondary Education. *Energy, Energy Consensation. *Environmental Education. Interdisciplinary Approach, Junior High School Students, *Middle Schools, Science Education, Social Studies, *Writing Exercises, Writing Instruction, *Writing Skills

Described are over 70 activities designed to help students develop writing wills by examining energy issue. Intended for middle school students, the lessons were developed by Hardee County. Florida teachers. Learning stranges employed include class discussions, analogies, word Puzzles, letter writing, sentence completions, cocabulary building challenges, and related writing assignments. A list of energy information sources is appended. (WB)

Tarley and angener

FD 199 146 SO 013 202
You and the Ocean.
Ocean Education Project. Washington. D C.
Pub Date -78
Note-27p
Pub Type- Guides Classisom: Teacher 1052)
EDRS Price - VII 01, 17 02 Plus Postage.
Descriptiona- Ecology: Elementary Education.
Food. Glubal Apprinach, loterdisciplinary Approach. *Oceanography. Pollution. *Science InSocial Studies, Units of Study

This multidisciplinary unit of study introduces the law of the sea to students in grades one through six. The unit, which takes three weeks to complete can. be taught in science and social studies courses. Con-cepts taught include the following, there are many things in the sea that are of value to humankind. people need products from the sea. People need to share together the ocean's wealth, and man is part of the manne ecosystem. The unit moders the stu-dents in many activities. In one activity children dents in many activities. In one activity children work in small groups and cut pictures about the sea out of inagazines. They create posters by pasting these pictures under headings. Good Things Abous the Oceans, 'and Bad Things About the Oceans. A classroom discussion follows. The students tearn that oil comes from the ocean floor and that many things we use are made from fish or plant products. They also learn about pollution. In another activity. students examine maps of Africa which show landlocked countries. They are then asked to assign ocean areas equally to all of the African countries. They draw or color the maps to show how they solved the problem. In one part of the unit the teacher guides the class in eaperments to see if vegetable seeds will frow in salt water. Children choose from several kinds of seeds and attempt to grow one in a dup of soil watered by fresh water and one in a cup watered by sale water. In other activities murals showing undersea life read stones and po-em about the sea, build models to show how oil is taken from the sea, produce a pupper show about the manganese nodule, and view films, (Au-thor RM)

Pennsylvania's Energy Curriculum for the Primare, Grades.

Pennsylvania State Dept of Education, Harrisburg. Spons Agency - Pennsylvania State Governor & En-

Pub Date—80 Note—2260 For related documents see SE 034 451-457. Pub Type- Guides - Classoom - Teacher (052)

Pub Type— Guides - Class com - Teacher (052)
EDRS Price - MF01 PC10 Plus Postage.
Descriptors—Elementary Education, *Elementary
School Science, *Energy, Energy Conservation,
*Environmental Education, interdiscaplinate, Approach, Physics, *Science Activities, *Science
Education, Science Instruction, Social Studies
Presented are approximately v00 energy-related

lessons for elementary school students. Among the tersons for elementary school scheents, saming the topica addressed are the importance of energy, figure energy sources, energy conservation, forms of energy, and electricity. Most activities relate to serence and or social studies and include illustrated handouts to duplicate for students. Livide in each lesson plan are objectives, subjekt area, notes to the teacher, and teaching suggestions (WB)

SE 034, 605 ED 200 4so

Lamper Schnone And Others
Solar Energy Curriculum for Elementary
Schools Kindergarten Through Grade Sia, Field Test Copy.

Department of Energy, Washington D.C. Office of

So'ar Applications
Recort: \0 - DOE CS-0128
Pub Date -Feb 80
Note -349p. Not available in hard copy due to colored pages throughout entire document which

may not reproduce well.

Pi 2 Type— Guides - Classroom - Teacher 1052)

LDRy Price - MF01 Plus Postage, PC Not Avails.

Me from EDRS. ble from EDRS.

Die from EURS.

Descriptors—Curriculum Descriptment, Etemensers Education "Elementary School Science,
"Energy) Energy Concernation, "Energomental
Education, Science Education, "Science Instruction, Social Studies, "Solar Ramation
Identificity—Alsonative Energy Sources

Description for did to the property of clementary.

Presented is the field test service of an elementary school sular energy curretuals consistent of nearly 50 acts these and demonstration confirments. Descloped by a team of feachers shat subject matter specialists these materials are ground under seven content area headings. (1) Extent to Methods (2) Bridgy and Life, (3) Sun and septit, (4) Energy Phenomena. Forms of Energy is Energy Phenomena. Forms of Energy is Energy and Energy Mesous on Line Energy and California and Tableting Systems of Energy and California and Tableting Systems of Energy and called a company cook section. Lesson plans list Presented is the field test a cression of an elementary

the grade level, objectives, evaluation ciresegies, vocabulary worlds, and projective (WB)

ED 202 729 SE 035 167 4 Ayers, Jerry B. Ed. Ideas and Activities for Energy/Environmental

Education: Grades 4-6. Tennessee Technological Unis . Cookesille.

Spons Agency—National Science Foundation,
Washington, D.C.
Pub Date—Apr 81
Grant—NSF-SPI-8001215

Grant—NSF-SPI-8001215

Note—230p. Prepated by students and staff of the NSF sponsored institute entitled 'Man's Energy Needs and Related Environmental Problems.' Contsins occasional light and broken type. Pub Type—Guides—Classroom—Teacher (052)—Reference Materials—Bibliographies (131)—EDRS Price—MF01/PC10 Plus Postage.
Descriptors—Energe Energe Censenation. Environmental Education. Interdisciplinary Approach. 'Intermediate Grades Language Arts, 'Resource Materials. "Some Education, Science Instruction, Social Studies

Science Instruction, Social Studies
Presented is a compendium of actis mes and refernce materials in environmental education and enerfly education that was develored by participants in a year-long institute conducted by Tennessee Technological University and spotsored by the National Science Foundation. The manual is divided tional science Foundation. If e manual is disided into three sections. The first consists of 111 activities, categoritzed by subject after for students in grades four through six. The second section to an annotated bibliography of 179 issuerie materials related to energy and environmental education and available through ERIC. An annotated listing of several hundred free materials for felastroom use complises the third section. I fairney RR. comprises the third section (Author, WB)

, SE 035 506 ED 206 465

Koski Carol And Others Discovery: A Study Gulde for Kindergarten, Alaska Sea Week Curriculum Series, Draft. Alaska Univ., Fairbanks. Alaska Sea Grant Pro-

Spons Agency-National Oceanic and Almos-

Spons Agency—National Oceane and Almosphene Administration (DOC), Rockville, Md National Sea Grant Program.
Pub Date—Jun 80
Grant—NOAA-NATSAA-D-00138
Note—126p.: For related documents, see SE 035
507-512. Contains occasional light and broken

type.

Pub Type-- Guides - Classroom - Learner (051) —
Guides - Classroom - Teacher (052)

EDRS Price - MF01/PC06 Plus Postage.

Descriptors—Animals. Disemeny Processes.

*Ecology. *Environmental Education, Interdisciplinary Approach, Kineergarten, *Language Arts,

*Marine Biology, Occanography, Outdoor Education, *Science Education

Bersened are a combination of classroom active.

Presented are a combination of classroom activiites and are shore field trips to help kindergarten students develop an awareness of the ocean and the life it supports. Among the multidisciplinary lessons included are those involving arts and crafts, mathemancs, science, and language arts. Through studying the sea and its inhabitants, students can learn to make compansons, count objects, and make careful observations. A 30-page student activity book and a list of teacher references are proceded. (Author/WB)

ED 206 470 SE 035 511 -Smid. Tamara

Fish: A Study Guide for the Fifth Grade. Alaska Sea Week Curriculum Series, Draft, Alaska Univ., Fairbanks Alaska Sea Grans Pro-

stam. pons Agency-National Oceanic and Atmosphene Administration (DOC), Rockville, Md.

National Sea Grant Program.
Pub Date—Jun 80
Grant—NOAA;NA79AA-D-00138
Note—85p.: For related documents, see SE 035
506-512. Contains occasional light and broken

Pub Type— Guides - Classroom - Teacher (052) EDRS Price - MF01/PC04 Plus Postsse. Descriptors-Art. Ecology. Elementary Education. *Environmental Education, *Fisheries, Grade 5, Language Arts, *Marine Biology, Mathematics, Natural Resources, "Oceanography, Outdoor Education, "Science Education, "Social Studies

The history, management, and importance of

138

Alaska's figheries are the focus of this elementary chool unit. Through the science, social studies, nglish, mathematics, and art activities included. students Investigate Alaskan fisheries and the biology and ecology of commercially important fish species. Athong the topics covered ate tides, life eyeles, lishing methods, and sea legends. A bibliography and set of field trip suggestions are provided. (WR)

ED 206 471

SE 035 512

Maier Judy Man's Influence on the Sea: A Study Guide for the Sixth Grade, Alaska Sea Week Curriculum Ser-

les. Draft. Alaska Univ., Fairbanks, Alaska Sca Grant Pro-

gram. Spons Agency-National Oceanie and Atmospherie Administration (DOC), Rockville, Md. National Sea Grant Program

Pub Date-Jun 80 Grant-NOAA-NA79AA-D-00138

Note-84p., For related documents, see SE 035 506-511. Contains occasional light and broken

Pub Type- Guides · Classroom · Learner (051) -Guides - Classroom - Teacher (052)

EDRS Price - MF01/PC04 Plus Postage.

Descriptors-Conservation (Environment). *Conservation Education. Ecology, Elementary Secondary Education. *Environmental Education. Grade 6. *Land Use. *Oceanography. Outdoor Education. *Science Education. *Social Studies Presented are activities designed to help students understand and investigate relationships between people and the marine environment. Topics include personal values, coastal development and manage. ment, environmental laws, and beach enmmunity monitoring. General considerations, are handled through simulations, class discussions, interviews, nudent writing exercises, and other elassfoom activities. Specific local studies involve field work as well as in-class preparation and evaluation. A bibliography, atudent worksheets, and field trip suggestions are included. (Author, WB)

SE 035 855

Young, Donald B. And Others
Water: A Vital Resource, Environmental Education Supplementary Instructional Guide, Sixth Grade Level.

Hawaii State Dept. of Education, Honolulu. Office of Instructional Services.

Report No.—RS-81-1095 Pub Date—Jun 81

Note-232p.

Pub Type—Guides - Classroom - Teacher (052)
EDRS Price - MF01/PC10 Plus Postage.
Descriptors—*Conservanon Education, *Eicmentary School Science, Environmental Education, Grade 6, Instructional Materials, *Interdiscipli-Grade O. Instructional materians, "interamenpu-nary Approach. Intermediate Grades, Learning Activities, "Science Activities, Science Educa-tion, Teaching Guides, "Water Resources Water-related, activities for sixth-grade students,"

are presented as one possible way to incorporate environmental education into the existing ourriculum of Hawau schools. Designed as an interdisciplinary approach, the activities integrate numerous themsise and subject areas to teach that fresh water is a limited but vital natural resource. Topics include water in nature, use and control, distribution. Puttification, 133ues, and alternatives and consequences. Lessons are self-explanatory, allowing for independent student work. They involve a wide range of activities including experimentation, creative writing, interviewing, oral reports, field trips, art work, map work, research, and simulations. Each of the seven sections contains a list of instructional goals, objectives with an indication of subject area, tau8ht. Performance expectations, essential competencies, and section objectives as well as the ectivities and teacher digest of the activity. A sum-mary charm for the sections indicate the subject areas, teaching approach, resources, and time fequirements for each lesson. (DC)

ED 211 389

SE 036 222

Hoppe. Catherine C. Constal Literlihoods and Crafts. Project CAPE

Teaching Module. Dare County Board of Education, Manteo, N.C.
Spons Agency—Bureau of Elementary and Secondary Education (ED), Washington, D.C.

Pub Date—Feb 82 Note—169p, Not available in paper copy due to

copyright restrictions
Pub Type— G_ jes · C'assroom · Teacher (052)
EDRS Price · VIFOI Plus Postage, PC Not Availa-

ble from EDRS.

Descriptors—"Career Awareness. "Elementary Education. Environmental Education. Grade 5.

Grade 6. "Handierafts. "Interdisciplinary Approach. "Learning Activities, Marine Biology, "Oceanography Occanography

Identifiers.-Coastal Zones. "Matine Education

Twelve multidisciplinary activities for upper elementary students compasse this unit on occupations and grafts associated with the distinctive lifestyle of the people of North Catolina's coast and the Outer Banks. Some topics included are fishing, seafood. real estate, dr velopment, esteers, crafts, and boats. Admistics involve playing games, cooking, reading a play, making things, and discussing issues. Each lesson indicates skills used, lesson concepts, competency goals, objectives, materials, vocabulary, background information, teacher and student preparation, and activity procedures Supplemental materials are provided for handouts and for constructing games and other stems for the lessons.

ED 212 411

arts. Richard Ha

Teaching Global Issues Through Mathematics. Development Education Paper No. 20.

United Nations Children's Fund, New York, N.Y. Pub Date—81 Note—10p.; For related documents, see RC 013

135-144. Available from-UNICEF, 866 UN Plaza, New

York, NY 10706.

York, NY 10706.
Pub Type—Guides - Classroom - Teacher (052)
EDRS Price - MP01/PC01 Plus Postage.
Descriptors—Cultural Awareness, Developed Nations, Developing Nations, Economic Development, "Elementary School - Matthematics, "Futures (of Society), "Global Approach, Instructional Materials Lateralizations Assertable International Conference International Confere tional Materials, Interdisciplinary Approach, Intermediate Grades, International Education, Learning Activities, Mathematical Education, Learning Activities, Mathematical Enrichment, Mathematics Materials, Rural Development, "World Affairs, "World Problems Identifiers—"Development Education

The document shows how teachers can use mathematics problems to teach fourth, fifth, and sixth grade atudents about critical global issues. The problems are arranged according to development topies. For each problem, the solution, reference source, and mathematical akills to be strengthened are and mathematical axists to be strengthened are given; global issues related to each problem are also briefly discussed. The first two mathematical problems relate to "Population." The other global issues included are "Poverty and Effects." "Waste in Affluent Nations," "The Arms Race," and "Global Hunger." Using these and similar mathematical problems, teachers can introduce interesting and valuable information and concepts. More important than the specific information in any problem. however, is the process of inquiry students gain from discussions of the significance of the results for their world's future. In effect, calculating the answer their world siture. In electricate that ing the answer to one of the sample math problems raises a host of other related questions: "Are we running out of natural resources?" "What impact does the arms race have on the meeting of human needs?" "How serious to the population explosion?" Concepts of interdependence, change, communication, and conflict can be used as organizing themes for discussion and as a context for information gathering and fur-ther inquiry. (Author)

ED 212 458 SE 035 427 Safe Drinking Water for Alaskar Curriculum for

Grades 1-6. South East Regional Resource Center, Juneau, Alaska.

Spons Agency-Alaska Dept. of Environmental

Spons Agency—Alaska Dept of Environmental Conservation, Juneau.

Pub Date—Feb 80
Note—98p.: For related document, see SE 035 428.

Pub Type—Guides - Classroom - Teacher (052)

EDRS Price - MF01/PC04 Plus Postage.

Descriptors—Elementary Education, Elementary

School Science. *Environmental Education, Health Education. *Public Health. *Science Education, Science Instruction, *Social Studies, Water Pollution, *Water Resources
Presented is a set of 10 lessons on safe drinking

Presented is a set of 10 lessons on safe drinking water in Alaska for use by elementary school teachers. The sim is to provide students with an understanding of the sources of the water they drink, how drinking water can be made safe, and the health threat that unsafe water represents. Although this curriculum relates primarily to science, health, and contains attodical account the following activates also curriculum relates primarily to science, negitia and social studies lessons, the follow-up activities also involve skills developed in art and English classes. Among the topics covered are the water cycle microscopic organisms, water treatment, and pollution. Each lesson includes a materials list, vocabulary, questions, procedure, and recommendations for additional activities. Teacher resources are listed. (Author/WB)

Clean Air for Anchorage and Fairbanks: Cur-riculum for Grades 1-6. South East Regional Resource Center, Juneau,

Spons Agency—Alaska Dept. of Environmental Conservation, Juneau.

Conservation, Juneau.

Pub Date—Feb 80

Note—67p.; For related document, see SE 035 430.

Pub Type—Guides · Classroom · Teacher (052)

EDRS Price · MF01/PC03 Plus Postage.

Descriptors—Air Pollution, Elementary Education, Elementary School Science, Environmental Education, Health Education, Public Health.

"Science Education, Science Instruction, "Social Studies, "Utban Problems, Weather Through the 10 lessons in this guide, elementary school students can be introduced to the characteristics of air, methods of air pollution control, air movement, and the health effects of polluted air Adjrectory of field trip sites and a list of teacher resources to included Contained in each lesson plan sources is included Contained in each lesson plan are a materials list, general introduction, questions, and activities. The materials can be used in conjunction with studies in hraith, science, social studies, and government. Suggested follow-up activities include skills developed in an and English classes. (Author/WB)

ED 212 492

SE 036,241

Payne. Citidy L. Studying Arkansas' Valuable Energy (S.A.V.E.):
An Energy Curriculum for Arkansas' Schools, Grades K-3

Arkansas State Dept. of Education. Little Rock. Spons Agency—Ozarks Regional Commission, Lit-tle Rock, Ark.

Pub Dstc-81 Grant-10-GR-0-147

Note-200p.; For related documents, see SE 036

Pub Type- Guides • Classroom - Teacher (052)

Pao Type— Guides * Classroom - Feacher (052) EDRS Price • MF01/PC08 Plus Postage. Descriptors— *Conservation Education. Depicted Resources, Electricity, *Energy, *Energy Conser-vation, Environmental Education, Fuels, *Inter-disciplinary Approach, *Learning Activities, Natural Resources, Primary Education, Solar Radiation, State Curriculum Guides

Identifiers-Alternative Energy Sources, Arkansas,

dentifiers—Alternative energy sources, Arkamas,

*Energy Educatioo
Designed for grades K-3, this guide contains 16
interdisciplinary lessons on antigy which were
developed to assist. Arkansas teachers in incorporating energy education into existing curricula. Program objectives are listed under four broad caregories. (1) energy sources, alternatives, and conversion, (2) energy uses, (3) conservation, and (4) limits and sense. (4) limits and impacts. Each lesson follows a uniform format which includes category of objectives, title, related subject areas, energy types, grade level, time, materials, learning objectives, task analysis (prerequisite knowledge and skills), and procedure (preparation, steps in lesson, evaluation and followup activities). A section on teacher background information and student worksheets follow each lesson. A glossary, list of selected references, and program evaluation forms are provided. (DC)

ED 212 A McAfee & B Studying An Enc Grades & SE 036 242

Arkansas State Dept. of Education. Little Rock. Spons Agency—Ozarks Regional Commission. Lit-

. tie Rock, Ark. Pub Date—81 Grant—10 GR-0-147

-172p.: For related documents, see SE 036 241-243.

241-243.

Pub Type— Guides - Classroom - Teacher (052)

EDRS Price - MF01/PC07 Plus Postage.

Descriptors— *Conservation Education, Depleted Resources, Electricity, *Energy, *Energy Conservation, Environmental Education, Fuels, *Internationary Approach, Intermediate 'Grades, *Learning Activities, Natural Resources, Solar Radiation, State Curriculum Guides

Identifiers—Alternative Energy Sources, Arkansas, *Energy Education

Energy Education Designed for grades four through six, this guide contains 21 interdisciplinary lessons on energy which were developed to assist Arkansas teachers in

which were developed to assist Arkansas teachers in incorporating, energy education into existing cure ticula. Program objectives are listed under four broad categories: (1) energy sources, alternatives, and conversion; (2) energy uses; (3) conservation; and (4) limits and impacts. Each lesson follows a uniform format which includes category of objectives, title, related subject areas, energy types, grades tives, titic, related subject areas, energy types, grade-level, time, materials, learning objectives, task anal-ysis (prerequisite knowledge and skills), and proce-dure (preparation, steps in lesson, evaluation and follow-up activities). A section on teacher back-ground information and student worksheets follow-cach lesson. A glossary, list of selected references, and program evaluation forms are provided. (DC) SE 036 093 🕏

ED 213 580 SE 036 09 Sly, Carolle Rose, Larry Environmental Education Guide, Volume 1: An Environmental Entertion Guide, Volume 1: An Environmental/Energy Education Primer for Kindergarten through Grade Three, 1981-1984, lameda County Superintendent of Schools, Hayward, Calif., California State Dept. of Education, Sacramento

Pub Date—81 Note—254p. For related documents, see SE 036 094-096. Contains colored print which may not reproduce well. reproduce we way will be from Office of the Alameda County Superintendent of Schools, 685 "A" St., Hayward, CA 94541 (57.00, \$25.00 for complete set of 4

volumes). Pub Type— Guides - Classroom - Tescher (052) EDRS Price - MF01 Plus Portage, PC Not Available from EDRS.

ble from EDRS

Descriptors—Conservation Education, *Curriculum Development, Decision Making, Elementary Education, Elementary School Curriculum, Energy, Energy Conservation, *Environmental Education, Institutions, *Interdisciplinary Approach, *Learning Activities, Natural Resources, Physical Environment, Primary Education, Urban Environment

dentifiers—*California, Energy Education, Environmental Management

tonmental Management As one of four volumes in a K-12 series, this As one of four volumes in a K-12 senes, this teaching guide contains classroom and outdoor activities pertaining to the dovironment and entrey for kindergarten through third grades. The guide was developed based upon the understanding that environmental education can serve as an instructional unbrella covering many topics (conservation, marine education, city planning, population, etc.) and that it is not a specific subject but an interdisciplinary theme. The activities are organized around four major topics; natural environment, built envifour major-topics: natural environment, built envifour major topics: natural environment, built environment, social institutions and decision making,
and energy and environmental resource management. Each section begins with a summary of issues
related to that topic followed by a listing of major
concepts and their associated objectives. One activity is presented to teach each objective (approximately 40). Objectives correspond with those
contained in the California "Course of Study" guide
for 1981-84. Each activity provides a brief description, the objective, purpose, time, topics, location,
materials, lead-up and preparation procedures, and
follow-up activities. Appendices list the sources for follow-up activities. Appendices list the sources for the activities, California resource agencies, and teaching materials available from these agencies. In the beginning of the guide, a procedure is outlined for planning an environmental education program.

ED 213 581 SE 036 09 Sly, Carolic Rose Larry Environmental Education Guide, Volume 2: An SE 036 094. Environmental/Energy Education Primer

Alameda County Superintendent of Schools, Hay-ward, Calif.; California State Dept. of Education, Sacramento

Pub Date—81 Note—273p.: For related documents, see SE 036 093-096. Contains colored print which may not reproduce well.

Available from—Office of the Alameda County Su-perintendent of Schools, 685 "A" St., Hayward, CA 94541 (\$7.00; \$25.00 for complete set of 4 volumes).

Pub Type—Guides - Classroom - Teacher (052) EDRS Price - MF01 Plus Portage. PC Not Availa-- Guides - Classroom - Teacher (052) ble from EDRS.

Descriptors-Conservation . Education Descriptors—Conservation | Education, *Curriculum Development, Decision Making, Elementary Education, Elementary School Curriculum, Energy, Energy Conservation, *Environmental Education, Institutions, *Interdisciplinary Approach, Intermediate Grades, *Learning Activities, Natural Resources, Physical Environment, Urban Environment Education, Environmental Management As one of four volumes in a K-12 series, this

ronmental Management
As one of four volumes in a K-12 series, this
teaching guide contains classroom and outdoor activities pertaining to the environment and energy
for fourth through sixth grades. The guide was developed based upon the understanding that environmental education can serve as an instructional

umbrells covering many topics (conservation, ma-rine education, city planning, population, etc.) and that it is not a specific subject but an interdiscipli-nary theme. The activities are organized around four major topics: natural environment, built envi-ronment, social institutions and decision making,

ronment, social institutions and decision making, and energy and environmental resource management. Each section begins with a summary of issues related to that topic followed by a listing of major concepts and their associated objectives. One activity is presented to teach each objective (approximately 40). Objectives correspond with those contained in the California "Course of Study" guide for 1981-84. Each activity provides a brief description, the objective purpose, time, topics, location, materials, lead-up and preparation procedures, and follow-up activities. Appendices list the sources for the activities, California resource agencies, and teaching materials available from these agencies. In the beginning of the guide, a procedure is outlined for planning an environmental education program.

for planning an environmental education program.

SE 036 497 ED 214.792

Temple, Bonnie K.
Cape Hatteras Lighthouse, Project CAPE Teaching Module, Publication 3-4a.
Dare County Board of Education, Manteo, N.C.
Pub Date—Feb 82

Pub Date—Feb 82.

Note—84p.

Available from—Project CAPE, Dare County School-Board, P.O. Box 640, Manteo, N.C. 27954, \$3.00, and \$2.50 Cotor Filmstrip.

Pub Type—Guides—Classroom—Teacher (052)

EDRS Price—MF01.Plus Postage. PC Not Available.

ble from EDRS,
Descriptors—Elementary Education, *Elementary
School Science, *Environmental Education,
Grade 3, Grade 4, Interdisciplinary Approach,
*Learning Activities, *Navigation, Oceanography, *Science Activities, Science Education
Identifiers—Cape Hatteras Lighthouse, Marine
Education

Education Twelve interdisciplinary lessons with supplementary materials for grades three and four comprise this teaching guide about the Cape Hatteras Lighthouse. An introductiod explains how the lighthouse is threatened by erosion, alternatives for saving it, the need for the lighthouse, and its history. Each lesson includes subject area, skills, lesson concepts, lesson includes subject area, skills, lesson concepts, competency goals, objectives, materials, background information, teacher preparation, procedures for student activities and enrichment activities. The lighthouse, seashore, shipwrecks, sand dunes, lifesawing, and weather are explored through art, reading, writing, map skills, demonstrations, simulations, acting, and math skills. (DC)

Middle/Secondary

ED 045 437 SE 010 423 Environmental Education Instructional Activities,

New York State Education Dept., Albany, Pub Date 70 Note—59p.

EDRS Price MF-\$0.50 HC-\$3.05

EDRS Price MF-\$0.50 EL-\$5000 Descriptors—Curriculum. Ecology. *Environ. Education Instruction. *Instructional mental Education, Instruction, "Instructional Materials, "Learning Activities, Natural Resources, Resource Materials, "Secondary Education, "Teaching Guides

As one in a series of two teacher's guides As one in a series of two teacher's guides dealing with environmental education, this publication for grades 7-12 contains basic concepts, activities, and questions designed to emphasize the primary role of man as a participant in rather than master of, his natural surroundings. Topics covered include survival. merdependence, searchly, recyclement, right vs.
responsibility, planning, valuing, social forces,
and optimism For each concept or
generalization, activities which the teacher might conduct are suggested accompanied by several probing questions. Actuatics are not intended to reflect a subject matter orientation. Three appendices provide useful information as to (1) a list of subject headings and topics pertinent to the environment: (2) periodical, general, and film indexes featuring environmental concerns: (3) individuals, groups, and government agencies that may serve as resources of information or as classroom speakers on the environmental usue. (BL)

ED 063 162

SE 013 807

Budde, Dugne Mounds View Environmental Education Project, Report #1.

ose—58p.: Prepared for the National Science Teachers Association Meeting. Washington,

D.C., 1971 EDRS Price MF-50.65 HC-\$3.29

Descriptors—Curriculum Developmem, *Curricu-lum Guides, *Environmental Education, *Interdisciplinary Approach. Language Arts. Learning Activities, Sciences, *Secondary Grades, Social Studies

Prepared for the 1971 National Science Teachers Association (NSTA) Annual Meeting, this collection of ideas, activities, and unit plans from the Mounds View Environmental Education Project would be useful for junior and senior high school seachers and curriculum planners Content neludes: (3) a senior high course outline and daily lesson plans for "Environmental problems and the Future of Man," dealing with population caplosion, food supply, natural resources, water and air pollution, and posticides; (2) utilis for junior high environmental studies-soil conserva-tion, animal poetry, pollution solution/communi-cation, you as an environmentalist, and air pollution: (3) environmental activities particularly suc-cessful in the classroom; (4) a description of high achool science courses relevant to the natural environment; (5) a junior high model for curricu-lum implementation; (6) suggestions on how the environmental education curriculum can be insegrased with the social studies cutticulum in the junior high school: (7) ideas for an interdisciplinary approach to the environmental education curriculum in grades 10-12; (8) enrous evalua-tion forms for faculty searchon, district assessment, and feedback; and (9) ruggested proposals for environmental study sites. An interdisciplinary approach, primarily stressing science, social studies, and language arts is evident throughout the work. (BL)

SE 014 501 ED 067 243 Environment, Teacher Manual, Junior High, Idea 'I. Land.

Environmental Education Project, Grafton, III. Spont Agency-liurvau of Elementary and Secondary Education (DHEW/OE). Washingtun, D.C. Puh Date [72]

Note-5kg.

EDRS Price MF-\$0.65 HC-\$3.29

Descriptors -- *Environmental Education, Instructional Materials. *Land Use, Learning Activi-ties, Natural Resources, *Secondary Grades, *Teaching Guides, Units of Study (Subject Fields)

Identifiers — Elementary Secondary Education Act . Title III. ESEA Title III

The Environmental Education Project Center has developed these guidelines for teaching a unit in environmental studies, it is their intention that the leacher and student cooperatively plan the approach and content to be used during the course of study. In this unit about land, teacherresource information and student material are combined to form a teacher's manual for use in the junior high grade levels. Project objectives, behavioral objectives, and pre- and post-test questions introduce the unit sections followed byideas, actions, and/or activities to develop aware. ness of land and its uses. Major topics of diseussion range from Plants and animals associated with soil to litter control measures, and resource use. Field trips emphasizing concepts previously learned are suggested and additional sources of information and materials for both students and teachers are listed. This work was prepared under an ESEA Title III contract for the project "Operation Survival Through Environmental Edu. cation." (BL)

Environmental Education Games,

Pennsylvania State Dept of Education, Har-risburg, Bureau of General and Academic Edu-

a Pub Date 72

Note-41p. EDRS Price MP-\$0.65 HC-\$3.29

Descriptors—Classroom Games. Conservation Education. *Educational Games, Elementary Grades, *Environmental Education, Instructional Materials, Models, *Natural Resources, Secondary Grades, *Simulation. *Teaching Guídes

Sia environmental education simulation games are presented in this manual, developed by Project SESAME G (Susquehanna ESEA Synergetic Activities for Maaimal involvement via Education Games). The simulations are models of social Interaction which provide an opportunity for social interaction in the classroom. maximize student involvement, and change the roles of both teacher and student. Background Information and inttructions are given for each game and include an overview of the game, objectives, materials and game- components, procedures, win criteria, debriefing, and a space for results of a game tryout. Additional material pertinent to the in-dividual game is appended after each description. The games are titled: Re-Con. Forest Adventure. Camp-O-Rama, Conserv-O, and Specimens and Categories. Suggested uses are for elementary grades (4-8) and high school social studies and general science classes, although many may be adapted for several subject areas. Both role-playing and board games are covered and emphasize decision-making awareness, identification, classification, and map reading skills. (BL)

ED 085 248

SE 016 984

SE 016 594

Cooper, Marilyn Theorst. Marie Environmental Education Activities for the English Language Aris Program in the Junior and

Schlor High Schools.
Milwaykee Public Schools, Wis. Div. of Curriculum and Instruction.

Pub Date 721

Note-49p. EDR5 Price MF-50.65 HG-\$3.29

Descriptors -- Activity Learning, Curriculum, *En-vironmental Education, *Guides, Instructional Materials. Intertilsciplinary Approach. guage Arts, Objectives, *Secondary Grades
Identifiers—Elementary Secondary Education Act

Title III. ESEA Title III.

Ninctean environmental education objectives are listed to be incorporated into the juring and senior high school Language Arts Program. Under each objective there are suggested activities that integrate environmental concepts, intu

appropriate language arts activities. This documem is a product of the Milwaukee Public Schools' Muster Plan for Environmental Educa. tion. Development of curriculum materials to achieve integration of environmental education Into the existing curriculum is a goal of one of the eight components of the Master Plan. For further details of this plan see SE 016 978 and SE 016 979. This work was prepared under an ESEA Title III contract. (JP)

ED 885 249

SE 016 985

Waldner, Suzanne Evrst. Micharl T.
Junior High Mathematics Activities and Problems
in Environmental Education: A Teacher's Gulde

Milwaukee Public Schools, Wis. Div. of Curricu-lum and Instruction.

Pub Date 72 Note-560.

EDRS Price MF.\$0.65 HC-\$3.29

EDRS Price MF-30.05 HC-33.49
Descriptors—Curriculum, Environment. *Environmental Education. *Guides, Instructional Materials, *Interdisciplinary Approach, Junior High Schools, Mathematical Applications. *Mathematics Education. Problem Solving. *Secondary School Mathematics

Identifiers-Elementary Secondary Education Act

Title III, ESEA Title III

As its primary function, this publication is to provide ideas and suggestions for ways that junior high school mathematics teachers can include environmental concepts as a meaningful component of the ongoing instructional program in mathematics. It includes suggestions for activities and projects as well as environmentally-oriented problems which cottelate with the mathematics concepts of the junior high program. Some activities require work outside of the classroom, but many may be used in presenting mathematical concepts. This work was prepared under an ESEA Title III contract. (JP)

ED 092 378 SE 017 916 Pollution. Environmental Education Instructional Unit. Final Edition.

North Carolina State Depth of Public Instruction. Raleigh. Div. of Science Education. Pub Date 73

-45p.; For related documents, see SE 017 915 and 917 MF-\$0.7 EDRS Price HC-\$1.85 PLUS

POSTAGE Air Pollution Control, *Environmental Education, Instructional Materials, clinterdisciplinary Approach, Intermediate Grades, Mathematics Education, Pollution. Science Education, Secondary Grades, Social Studies, Unit Plan, Wastes, Water Pollution Control, Worksheets

Identifiers- Noise Pollution This unit on pollution is one in a series of three prepared for use in the classroom. An interdisciplinary approach encompassing mathematics. science, and social atudies is utilized in these environmental units. The material is designed for middle grades and above. Many activities are open-ended, with each activity in this unit emphasizing the pollution erists. The unit is divided into mini-units dealing with air, litter, noise. and water pollution. For some of the mini-units, student worksheets are provided which can be easily duplicated. Thought questions are presensed to facilitase logical thinking based on skills and knowledge of mathematics, science, and social studies. [JP]

ED.092 379 SE 017 917 Natural Resources, Environmental Education Ia-structional Unit. Final Edition.

Nonth Catolina State Dept. of Public Instruction,

Raleigh. Div. of Science Education.

Note-56p.; For related documents, see SE 017 915 and 916

EDRS Price MF-\$0.75 HC-53-15 POSTAGE

Descriptors-Conservation Education, *Environ. mental Education, *Instructional Materials. *Interdisciplinary Approach. *Intermediate

~ (\$

Mathematics Education. "Natural Resources, Science Education, Secondary Grades, Social Studies, Soil Conservation, Unit Plan. Water Resources, Wildlife Management. Worksheets

This unit on natural resources is one in a series This unit on natural resources is one in a series of three prepared for use in the classroom An interdisciplinary approach encompassing mathematics, science, and social studies is utilized in these environmental units. This material is designed for middle grades and above. Many of the activities are open ended with each activity in this unit emphasizing the use of our natural resources. The unit is divided into mini-units dealing with forests, soil and minerals, water, and desing with forests, soil and minerals, water, and widdlife. For some of the minimums student worksheets are provided which can be easily duplicated. Thought questions are presented to facilitate logical thinking based on skills and knowledge of mathematics, setence, and social studies. Role-playing situations are included to stimulate the students' imaginations. (JP)

ED 099 233 Junglas, Mary R And Others

Other Curriculum Areas. Willoughby-Eastlake School Distnet, Willoughby.

SE 018 436

pons Agency—Bureau of Elementary and Secondary Education (DHEW/OE), Washington, D.C. Pub Date 74

Note-90p EDRS Price 'MF-\$0.7\$ HC-\$4.20 PLUS POSTAGE

Descriptors-Art. Conservation Education. *Cur-Descriptors—Art. Conservation Educauon. *Curneulum Guides, Environment. *Environmental Education, Instructional Materials. *Interdisciplinary Approach, Learning Activities, Leisure Time, Literature, Mathematies, Music, Natural Resources. *Secondary Education, Teaching Guides

Identifiers—Elementary Secondary Education Act.
Title III. ESEA Title III.
This environmental education environmental

This environmental education curriculum guide was developed for teacher use at the jumor high school and senior high school levels. The guide deals with the integration of environmental edueation into eurricular areas not normally asisociated with environmental education. The guide is divided into the following eight units. Me and My Environment. People and Things, explores means of communication. Art and Architecture, is also with the relationship between one's personal environment and the physical environment. Muste in the Environment, looks at sounds in the environment. Leisure/Work, explores leisure and work in one's environment. The Visual Reflections of our Cultural Environment. tions of our Cultural Environment, involves communication through photography. The Performing Arts, an action approach, develops skills in aesthetic and sensory perception. Leisure/Work. looks at the changes in leasurerwork patterns, and Mathematics, explores math in the environment. Each unit contains an introduction, staring the purpose and background, instructional objectives. esperiences, and references. The experiences of sach unit are based on an objective which relates to the subject of the unit Several activities. which reflect and reinforce the objective, are in-cluded in each experience. (Author/TK)

ED 100 661 88 Art 7.9, Environmental Education Guide.

Project I-C.E. Green Bay. Wis.

pons Agency—Bureau of Elementary and Secondary Education (DHEW/OE). Washington. D.C., Wisconsin State Dept. of Education. Madison

Pub Date [74] Note-92p. EDRS Price

MF-\$0.7\$ HC-\$4,20 PLUS POSTAGE

Desemptors—*Art Education. *Conservation
Education. *Environmental Education, Instruc-*Conservation tional Materials. Interdisciplinary Approach. Learning Activities. Natural Resources, Out-door Education. Science Education. *Seconda-ry Education. *Teaching Guides

Identifiers—Elementary Secondary Education Act
Title III. ESEA Title III. *Project I C E

This are aducation guide, for use in grades 7-9, is one of a series of guides. K-12, which were developed by leachers to help introduce environ-

mental education into the total curriculum. The guides are supplementary in design, containing a series of episodes (minilessons) that are designed to wake students to sights of beauty and harmony in their environment. The episodes are built around 12 major environmental concepts that form a framework for each grade or subject area, as well as for the entire K-12 program, Although the same concepts are used throughout the K-12 program, emphasis is placed on different aspects of each concept at different stibject areas. This guide focuses on aspects such as college, enameled jeweiry, and linear design. The 12 concepts are covered in one of the episodes con-tained in the guide. Further, each episode offers subject area integration, subject area acrivities. interdisciplinary activities, cognitive and affective behavioral objectives, and suggested references and resource materials useful to teachers and students. (Author/TK)

SE 018 362

Music 7-9, Environmental Education Guide.
Project I-C-E, Green Bay, Wis.
Spons Agency—Bureau of Elementary and
Secondary Education (DHEW/OE). WashingJon, D.C.; Wisconsin State Dept. of Education.

Madison.
Pub Date [74]

Note-47p. EDRS Price MF-\$0.75 HC-\$1.85 PLUS POSTAGE

Descriptors-Conservation Education *Environ. mental Education, Instructional Materials, Interdisciplinary Approach. Learning Activities. *Music Education, Natural Resources, Outdoor Education. *Science Education, Education. *Teaching Guides *Secondary

This music education guides. K-12, that were developed by reachers to help introduce environmental education into the total curriculum. The guides are supplementary in design, containing a series of epivodes (minilessons) that reinforce enfronmental concepts and theories by developing ecology-related aesthetic values. The episodes are but a ground 12 major environmental concepts that form a framework for each grade or subject area, as well as for the entire K-12 program. Atthough the same concepts are used throughout the K-12 program, emphasis is placed on different aspects of each concept at different grade teleis or in different subject areas. This guide tocuses on aspects such as dramatization, instrumeets, and singing. The 12 concepts are covered in one of the episodes contained in the guide Further, each episode offers area integration, sub-ect area activities, interdisciplinary activities. cognitive and affective behavioral objectives, and suggests references and resource materials useful to leachers and students (Author/TK)

'-ÈD 100 689 Business Education 9-12, Environmental Education Guide.

Project I-C-E, Green Bay, Wis

Spons Agency Wisconsin State Dept. of Public Instruction, Madison.
Pub Date [74]

Note-131p. EDRS Per

MF-\$0.75 HC-\$6.60 PLUS POSTAGE

Descriptors—*Business Education. Conservation Education. *Environmental Education, Instructional Materials, Interdisciplinary Approach. Learning Activities, Natural Resources, Outdoor Education, Science Education, "Secondary Education, "Teaching Guides Identifiers." Elementary Secondary Education Act

Title III, ESEA Title III. Instruction Curriculum Environment. Project I C E

Environment: *Project | C E

This business education guide, for use at the secondary level, is one of a series of guides, K-12, that were developed by teachers to help introduce environmental education into the total curriculum. The guides are supplementary in design, containing a series of episodes (mindlessons) that help to meet the growing need for energy to the content of the growing need for energy to the content of the growing need for energy to the content of the growing need for energy to the content of the growing need for energy to the content of the growing need for energy to the content of the growing need for energy the growi sons) that help to meet the growing need for environmental awareness through business communteations. The episodes are built around 12 major environmental concepts that form a framework for each grade or subject area, as well as for the

emire K-12 program. Although the same con-cepts are used throughout the K-12 program, emphasis is placed on different aspects of each concept at different grade levels or in subject areas. This guide focuses on aspects such as living space, private ownership, and recycling paper. The 12 concepts are covered in one of the episodes contained in the guide Funher, each episode offers subject area integration, subject area activities, interdisciplinary activities, cogni-tive and affective behavioral objectives, and suggested references and resource materials useful to teachers and students (Author/TK)

88 SE 018 588 Home Economics 7-12, Environmental Education

Project I-C-E, Green Bay, Wis.

Sponsy Agency—Bureau of Elementary and Secondary Education (DHEW/OE), Washington, D.C., Wisconsin State Dept. of Public Instruction, Madison.

Pub Date [74]

Note-114p. EDRS Price Price MF-\$0.75 HC-\$5.40 PLUS POSTAGE

Descriptors-Conservation Education. * Ehvironmental Education, "Home Economics Educa-tion, Instructional Materials, "Interdisciplinary tion, Instructional Materials, "Interdisciplinary Approach, Learning Activities, "Natural Resources, Outdoof Education, Science Education, "Secondary Education, "Teaching Guides Identifiers—Elementary Secondary Education Act Title III, ESEA Title III, Instruction Curriculum Environment, "Project J C E

This home economics guide, for use at the secondary level, is one of a series of guides, K-12, that were developed by teachers to help introduce environmental education into the total curriculum. The guides are supplementary indication containing a series of edited that design, containing a series of cpicedes that develop a sense of family and personal responsibility toward the environment and help the student learn to use and preserve natural resources. The episodes are built around 12 major environ. mental concepts that form a framework for each grade or subject area, as well as for the entire K-12 program. Although the same concepts are used throughout the K-12 program, emphasis is placed on different aspects of each concept at different grade levels or subject levels. This guide focuses on aspects such as the consumer, hous-ing, and family living. The 12 concepts are covered in one of the episodes contained in the guide. Further, each episodes contained in the guide. Further, each episode offers subject area integration, subject area activities, interdisciplina-ry activities, cognitive affective behavioral objec-tives, and suggested references and resource materials useful to teachers and students. (Author/TK)

ED 100 691 SE 018 589 Industrial Arts 7-12, Environmental Education

Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE). Washington. D.C.; Wiscottsin State Dept. of Public literature. Madison.

Pub Date [74]

Note—104p. EDRS Price MF-\$0.75 HC-\$5.40 PLUS POSTAGE

POSTAGE
Descriptors—*Conservation Education, *Environ.
mental Education. *Industrial Arts. Instructional Materials, Interdisciplinary Approach.
Learning Activities, Natural Resources. Outdoor Education, Science Education. *Secondary Education. *Teaching Guides
Identifiers—Elementary Secondary Education Act
Title III, ESEA Title III. *Project I C E
This industrial arts guide. For use in grades 7.
12. is one of a senes of guides. K-12, that were
developed by teachers to help introduce environmental *education arts the total currentum. The

mental education into the total curriculum. The guides are supplementary in design, containing a series of episodes (minilessons) that focus on the economical use of materials and resources and the problems of economic gain versus environ-mental loss. The episodes are built around 12 major environmental concepts that form a framework for each grade or subject area, as well as for the entire K-12 program. Although the same concepts are used throughout the K-12 program, emphasis is placed on different aspects of



ED 100 696. 88 SE 018 594

ED 190 696. 88 SE 018 594
Physical Education 7-12; Environmental Education Guide.
Project I-C.E. Green Bay, Wis.
Spons Agency—Bureau of Elementary and
Secondary Education (DHEW/OE), Washingtog, D.C.; Wisconsin State Dept. of Public Instruction, Madison.
Pub Date [74]

Note - 58p Price MF-\$0.75 HC-\$3.15 PLUS POSTAGE

Descriptors -- Conservation Education, *Environ-Descriptors—Conservation Education, *Environmental Education, Instructional Maternals, Interdisciplinary Approach, Learning, Activities, Natural Resources, Outdoor Education, *Physical Education, *Science Education, *Secondary Education, *Teaching Guides identifiers—Elementary Secondary Education Act Title III, ESEA Title III, Instruction Curriculum Environment, *Project.! C E. This robustical education audits, for the in grades.

This physical education guide, for use in grades 7-12, is one of a series of guides, K-12, that were developed by teachers to help introduce environmental education into the total curriculum. The guides are supplementary in design, containing a series of episodes (minilessons) that bridge the agn between physical education and the environment, since all physical education begins with, reflects, and depends on the environment. The episodes are built around 12 major environmental concepts that form a framework for each grade of subject area, as well as for the entire K-12 program. Although the same concepts are used broughout the K-12 program, emphasis is placed on different aspects of each concept at different on quierent aspects of each concept at different grade levels or subject areas. This guide focuses on aspects such as camping, skiing, and fitness. The '12 concepts are covered in one of the episodes contained in the guide, Further, each episode offers tubject area integration, subject area activities, interdisciplinary activities, cogni-tive and affective behavioral objectives, and suggested references and resource materials useful to teachers and students. (Author/TK) ED-101 959

SE 018 625

Jamason, Rarry W Living Within Our Means: Energy and Scarcity En-ironmental Education Instructional Activi-

ties-7-12, New York State Education Dept., Albany, Office

of Instructional Services. Pub Date 1741

Note-112p.; For the K-6 booklet, see ED 093

EDRS Price MF.SO.76 HC-\$5.70 PLUS POSTAGE

Descripiors-Conservation Education. *Energy. *Environmental Education, Fuel Consumption. Instructional Materials, Interdisciplinary Ap-proach, Language Aris, *Learning Activities, Natural Resources, Objectives, Science Education. Science, *Secondary Grades, Social Studies. *Teaching Guides

This manual is a source of learning activities and instructional materials for ivaching environmental education concepts in grades 7-12 Commental education concepts in grades 7-12 Comtents are organized into the areas of consumer education. English language arts, home economics, mathematics, science and social studies, and are subdivided by suggested grade level or subject ares where applicable. Supplementary activisies are included. An appendix containing reference books and articles, penodicals, films and multimedia materials concludes this manual

ED 103 236 SE 018 517 Contour Mapping. As Environmental Investiga-

Minnesota Environmental Seiences Foundation. Ine., Minneapolis, National Wildlife Federa-Pub Date 72

Note-24p.: Related documents are SE DIS 514. 534

Available from-National Wildlife Federation, 1412 16th Street, N.W., Washington, D.C. 20036 (Order No. 79212, \$1.50) Washington, D.C.

Price MF-\$0.76 HC-\$1,58 POSTAGE

Descriptors—Elementary Grades, "Environmental Education, Instructional Materials, Intermediate Grades, Junior High Schools, "Learn-Activities. *Mathematics Education. *Science Education
Teaching Guides
Identifiers—* Mapping Education. Secondary

This environmental unit is one of a series designed for integration within an existing cur-riculum. The unit is self-contained and requires little teacher preparation. The philosophy of this series is based on an experience-oriented procest that encourages self-paced independent student work, This particular unit is designed to involve students in contour mapping activities that demonstrate certain principles of geometry. Preliminary activities include directions for building contour mapping equipment. The remaining activities are concerned with the use of this equipment in constructing a contour map. At the end of the unit are six pages of graphic informastudents. Teacher information includes materials needed, directions for assembling equipment, background information, and additional topics. This unit is designed for students, grades 4-9. (MA)

ED 113 148 SE D19 535 Environmental Education: Problems, Projects and Exercises (Grades 4-10).

North Carolina State Dept. of Public Instruction, Raleigh Div. of Seience Education Pub Date Feb 72

Pub Date Feb 72

Note—SOp., Adapted from a similar Wisconsin publication, ED 0.46 74.6

EDRS Price MF-\$0.76 HC-\$1.95 Plus Poslage.
Descriptors—Curriculum Guides, *Ecological Factors. Elementary Secondary Education. *Environmental Education, *Instructional *Environmental Education, *Instructional Materials, Interdisciplinary Approach, Mathematical Concepts, Natural Resources, *Pollution, Population Trends, *Problem Solving, Student Projects, Teaching Guides

This sourcebook is an example of how environmental concepts can be introduced into various areas of the school eurticulum. Included are a series of problems, projects, and exercites for stedents in grades four through ten. They are concerned primarily with pollution, population, in-dividual needs, industrial needs, and consump-tion, on both a community and national scale. Each of the acuvities presents a particular problem, and students are asked to utilize their computational skills and/or suggest alternatives. The various problems and exercises aim to challenge students' problem-solving abilities in dealing with whole numbers, rational numbers, real ning with whole numbers, ranonal numbers, real numbers, percent and proportions, measurement, statistical measures, and graphs. Through, genera-tion of projects, students examine problems and suggest ways to improve environmental condi-tions. (BP)

SE 020 264 ED 130 822 Environmental Education, Energy - Technology, 'Grades 7-32.

New Jersey State Council for Environmental Edu.

cation, Upper Moniclair.

Spons Agency—Bureau of Elementary and Secondary Education (DHEW-OE) Washington, D.C. ton. D.C Pub Date [75] Grant—OFG-0.71-1754(200)

Note—Sap. For related documents, see SE 020 263 and SE 020 239. Not available in hard copy due to marginal legibility of original docu-

EDRS Price MF-\$0.83 Plus Postage. HC Not Available from EDRS.

Descriptors—Conservation Education, *Fnergy

Conservation: Environmental Education: "In-Struggional Materials, interdisciplinary Ap-proach, "Learning Activities," Natural Resources, Resource Materials, Science Education. 'Secondary Education Identifiers—Henrentary Secondary Education Act

Title III. ESF A Title III

This publication is one of three books contain. ing energy-related student activities at various grade levels. This particular book is concerned in a number of payariotal opicities correspond further grouped according to suitability for pupile in grodes 7-9. Interdisciplinary in approach, the activities are taken from the disciplines of science, art. social studies, mathematics, music. language arts. English, and manual arts. The book contains some charts and illustrations, as well as a tisting of supplementary references YMA1

RD 130 831 SE 020 739 Ravironmental Education, Energy - Society, Grades 4-12.

New Jersey State Council for Environmental Edu. estion, Upper Montclait.

Spons Agency—Bureau of Elementary and Secondary Education (DHEW/QE), Washing. ton, D.C. Pub Date [75]

Grant-DEG-0-71-1754(290)

Note-52p.i For felated documents, see SE 020 243-264

EDRS Price MF-\$0.83 HC.\$3.50 Plus Portage. Descriptors-Conservation Education.

Conservation. *Energy Conservation. *Energy Conservation. *Environmental Education. *Inspructional Materials, Interdisciplinary Approach, *Learning Activities. Natural Resources, Seience Education. *Secondary Education, Social Attitudes dentifiers—Elementary Secondary Education Act

Title III, ESEA Title III This publication is one in a series of three energy-related units selected from the "Environ. ment and the Quality of Life" environmental education series. It contains numerous student leam. ing activities for various grade levels, based on a number of behavioral objectives. Each activity provides the purpose, suitable grade level, related subjects, and methods. Subjects covered by the activities include language arts, social studies, acience, mathematics, art. English, industrial arts, music, and home connomies. A final resource tists supplementary references including books, films, and kits. (MA)

FIS 134 440 SE 021 920 Valuing the Environment, 7.12.

Charlotte. Mecklenburg Public Schools, Charlotte,

Spons Agency—Department of Health, Education, and Welfare, Washington, D.C.
Report No.—PL-91:516

Pub Date Jun 75

Grant-DEG-0.74-7362
Note-139p.: For related documents, see SE 021
919 and ED 106 087: Not available in hard copy due to marginal legibility of original docu-

EDRS Price MF-\$0.83 Plus Portage. HC Not Available from EDRS.

Descriptors-Conservation Education, *Cutricu. lum. "Environment, "Environmental Educa-tion, Instructional Materials, Learning Activities. Natural Resources. Outdoor Education. Science Education, *Secondary Education, Social Problems. *Teaching Guides, *Values

This document is a pilot program of an inter-disciplinary nature that complements the existing eurneulum utilizing value clanfication strategies. Included in this publication are a variety of value encounters. The value encounters are divided into four broad conceptual ateas! (1) Environmental Management. (2) Environmental Quality: (3) Environmental Ecology; and (4) Sociocol. an introductory section, behavioral objectives, acnetties, values strategies, and a bibliography, of useful resources. The activities are graded for ap-plicability, grades 7-9, 10-12, of 7-12. (RH)

ED 134 537 **9**5 SO 009 822 King, David C. Stillman, Peter R

Suggestions for Curriculum Development [And] Handbook, Part C. 7-9. Environmental Educa. tion Interdependence: A Concept Approach. Revised.

Center for Global Perspectives, New York, N Y. Spons Agency Office of Education (DHEW), Washington, D.C. Office of Environmental, Education.

Pub Daie Sep 76 Note-100p.: For related documents, see SO 009 820-823

Available from-Center, for Global Perspectives. 218 East 18th Street, New York, New York 10003 (guide'\$1.50, handbook \$2.00)

EDRS Price MF250.83 Plus Postage. HC Not Available from EDRS.

Descriptors—"Activity Units. Bibliographies. Concept Formation. "Concept Teaching. Curneulum Development, Environmental Educa. tion, Grade 7, Grade 8, Grade 9, "Inteldisciplinary Approach, Junior High Schools, Learning Activities. Objectives. Relationship. Secondary Education. Simulation. *Teaching Methods identifiers...*Interdependence

Two booklets, a guide and a handbook, comprise the grades 7-9 component of a senes of guides for incorporating environmental education mto the existing curriculum. The materials emphasize a multidisciplinary approach, use the concept of mierdependence as an organizing theme, and offer suggestions for using the local community as a resource Eight objectives, based on knowledge of systems, include understanding how population changes influence all other en-vironmental issues, developing constructive attitudes toward one's sursoundings, and comparing ways in which diverse human groups interact with their environment. The guide present ideas and bibliographic suggestions for multidisciplinary study. For example, seience classes could research major sources of pollutants, such as carbon mnnoxide, and report their effects on natural systems English and art classes could study folk art of various cultures and note the ways that people use art to express their feelings about the world in terms of food sources, homes, gods, and landforms. The handbook contains four activity units in which students study effects of a nationwide arrline strike and analyze the role of noise as a by-product of some systems and a necessary component of others. A simulation challenges students to identify and devise systems necessary for subsistence on a five-acre plot of land. (AV)

ED 137 056

SE 021 163

Environmental Education Curriculum Infusion Units for Grades 7-12.

New York State Education Dept., Albany, Spons Agency—Office of Education (DHEW), Washington, D.C. Office of Environmental Education.

Pub Date [75]

Grant-PL-91-516

Note-247pii Contains occasional light and broken type

broken type

EDRS Price MF-50.83 HC-\$12.71 Plus Postage,
Desemptors—Curneulum Guides. *Environmental

Education. Instruction. *Instructional Materials. *Interdisciplinary Approach, Learning Activities. Resource Materials. *Secondary tivities. Resource Materials. Secondary Grades. State Curneulum Guides. Teacher

Developed Materials identifiers - New York

This manual, developed with a grant from the United States Office of Education, Office of Environmental Education, contains ten interdisciplirepresentation teaching unita developed by teachers from the state of New York for use in the secondary grades. The unita are referenced to the syllabules of New York State and are designed to supplement or supplant some of the units normally used in instructional programs. The format of this publication is designed to facilitate the duplication of subject matter segments, individual worksheets, or single unite Unite are provided for consumer education. English lenguage arts, environmental studies, fine arts, health, Industrial arts, mathematics, seion and social studies. Learning activities within individual units contain syllabus and environmental references, objectives, procedures, related activities and resource materials. The appendices consist of (1) a schematic of a curriculum design process; (2) categories of environmental insues; (3) environmental education instructional objec tives. (4) environmental concepts defined; (5) en vironmental understandings; (6) an annotated list of other New York State Education Departfient environmental materials; and (7) a list of New York City curriculum references for the units in this manual. (BT)

ED 137 100 Wert, Jonathan And Others SE 022 303

Ideas and Activities for Teaching Energy Conservations Grades 7-12.

Tennessee Univ., Knosville Environment Center. Spons Agency—Tennessee State Dept of Educa-tion. Nashville: Tennessee Unic. Knosville State Agency for Title I.

Pub Date Jan 77

Note-223P. Not available in hard copy due to colored pages throughout entire document DRS Price MF-50.83, Plus Postage, HC Not

Available from EDRS.

Descriptors— "Conservation Education. "Energy.

"Instructional Materials. Interdisciplinary Approach. Language Arts. "Natural Resources. Sciences, "Secondary Education, Social Studies, Teaching Guides

This publication contains a variety of ideas and materials for teaching about energy in grades 7-12. Topic areas include: (1) Historical Perspec-tive on Energy, (2) Energy Resources, (3) Energy Conservation: (4) (deas and Activities, and (5) Appendices. The first three sections provide background information on energy and conserva-The activities include ideas to use in science, social studies, language arts, and muliidisciplinary areas. The appendices include a variety of useful tables of data, basic information on energy, a glossary, and a bibliography. (RH)

ED 144 787 SE 022 923 Suggested Activities for Environmental Education

In the Secondary Schools.
Texas Education Agency, Austin Div of Curneulum Development.

Pub Date 77 Note—47p . For related document, see SE 022 922: Not available in hard copy due to colored print throughout entire document EDRS Price MF-\$0.83 Plus Postage. HC Not

Available from EDRS.

Descriptors— Classroom Materials, Curriculum Enrichment, Curriculum Guides, Environmental Education *Instructional Materials, Learning Activities, Resource Materials, Science Education, *Secondary Education

Science Education, Secondary Education Identifiers—Texas Education Agency
This publication is designed as a model to assist middle school and high school teachers in developing environmental education activities in ull subject areas. Both public school and college educators developed this guide to, help make young people aware of the value of the environ-ment and of the responsibility they have for conserving it. Discussions of the curriculum model, for the guide and the program format and enternance included for the teacher. The curriculum model demonstrates the interrelationships of per-sonal concetus, environmental concerns, and edu-eational process. A multidisciplinary approach is an important component in every suggested activity topic Some of the areas covered are en-vironmental ethics, government and law, land use, pollution, population, energy, and economics Each topic includes a short overview and a listing of generalizations and suggested pupil activities. The educational experiences and acrivities are designed to individualize student learning, emphasize community involvement, and encourage exploratory and incestigative learning A companion guide is also available for elementary grades. (Author/MA)

SE 023 4s0 Environmental Education, Values for the Future:

Curriculum, Grades 6-8 and 9-12.

Itimus Stats Office of Education, Springfield.

Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE), Washington. D C

Pub Date 77

Grant-10E-551-2-75 Note-65p., For related documents, see SE 023 448-457 and SE 023 459-465

EDRS Price, MF-\$0.83 HC-\$3.50 Plus Postage.

Descriptors— Carrieulum, Curriculum Guides, Elementare Secondary Education. Education. Elementary Secondary *Instructional Materials. *Cearning Activities, Resource Materials, Science Education. *Teaching Guides

Identifiers-Elementary Secondary Education Act

This booklet on curriculum is one of a series in environmental education for grades K.12 in this section, four have concepts are inted and the

behavioral objectives, accurated subject areas, and key words and definitions are included for each. Three actions uprions are given for each concept information for the teacher merudes materials and resources needed for the acrising. the procedure, driewoun questions, further de-tivities, and sample worksheers. These activities are interdeciplinary in nature and are designed for Mudents in grades 60% and 9-12 (MA).

SE 024 109

Oklahoma Energy Awareness Education, Energy Education Activities, Grades 4.12. Oklahoma State Dept Of Education, Oklahomra

Spons: Agency Bureau of Flementary and Secondary Education (DHEW/OF), Washington, D.C.

Pub Date 77 Note=220p.. For related documents, see \$1 024 108-110. Page 163 mosting from document prior to its being shipped to FDRS for blining. Contains occasional small, tight and broken

type
EDRS Price MF-\$0.83 HC-\$11,17 Plus Postage. EDRS Price AIF-30.85 mcG-11.67 rium secondary Federation, *Inergy, *Inergy Concernation Fostionmental Education, *Experiential tion. Environmental Education. Learning. Uniterediamat Marenak. *Interdisciplinary Approach. Resources, Units of Studs Identifiers—*Oktahoma

This publication contains energy education activities for grades 4 through 12 and is part of a set of three publications. These aericines are organited under five energy concepts 111 energy is so basic that nothing moves without it. (2) con-servation of energy, (3) there are other energy alrematives: (4) society depends on energy, and (5) the production and distribution of energy have environmental and economic consequences This publication is constructed in a tooseleaf fashion to facilitate the reproduction of aericities. Grade texel, objective, materials, and a descripthon are given for each ucharty. The variety of activities include taboratory experiments, values cluffication exercises, simulations, games, and independent student investigations meluded that may be used in une or more subject areas so that an interdisciplinary approach to energy education is achieved (MR)

ED 153 843

SE 024 169

Childs, Harbaru And Others
Interdisciplinary Student/Teacher Materials in Energy, the Environment, and the Economys 3, Energy, Englacs, and the Industrial Revolution. Grades 8, 9.

Notional Science feachers Association, Washington, D.C.

Spons Agency-Bureau of Intergovernmental and Institutional Relations (DOE), Washington, D.C. Office of Education, Business and Labor Affair.

Report No-EDM-1032

Puh Date Oct 77

Contract - EX-76.C-4(§3841

Note-Rop., For related documents, see SE 024 167-172 and SE 024 218, Not available in hard copy due to marginal legibility of original docu-

Available fram_U.S Department of Energy, Feehneol Information Office, P.O. Box 62. Oak Ridge, Tennesce 37830 (nn price quoted) EDRS Price MF-\$0.83 Plus Postage, HC Not Available from EDRS.

Desertation Lemonic Education, *Energy, History, Industrialization, "Instructional Materials, Integrated Currection. *Science Education. *Social Studies. *Teaching Guides

Hus matruchinal unit for grades 8-9 combines science and social studies in a look at the broadeleud and economic upheavals that took place during the industrial revolution, giving special compliants to the role of energy. The invention and development of the seam engine is highlighted in one lessin. Other lessons show how the industrial revolution affected the location and growth of exnes around stick of energy courses, and give greater understanding of the effects of technology on the duity lives of people. There are five texsome in all, two retaining to science and those to social studies. Complete teacher and student materials are included (1881)



ED 153 844

SE 024 170

ED 153 844 SE 024 170 Inda, Burbare and Others Materials in territory, the Energy, the Environment, and the Economy 4. Transportation and the Clip, Grades 8, 9. Cinids: Harbara

Science Teachers Association, Washington DC

Spons Agency - Bureau of Intergovernmental and Institutional Relations (DOE) Washington.
DC Office of Education, Business and Labor Alfaire

Report No_FDM-1031.

Pub Date-Oct 77 Contract _ EX -76-C-10-3841

ore—44p. For related documents, see \$E/024 167-172 and \$E 024 218, Not available in hard copy due to marginal legibility or original docu-

ment
Available from U.S. Department of Energy,
Technical Information Office, P.O. Box 62,
Oule Rulge, Tennessee 378,10 (no price quoted)
EDRS Price MF.50,83 Plus Postage, HC Not
Available from EDRS.)
Deverptors—"Crice" "Energy, Environmental
Education, History, "Instructional Materials,
"Social Studies,"
"Social Studies,"

"Secondary Education, "Social Studies," Leaching Guides, United States History, Un-

hamization Identifiers—"Automobiles

6 The instructional unit for grades eight and onne tells who and how American small towns declined as a result of the availability and acceptance of and a record in the availability and acceptance in automobiles, and it tells of the growth of suborbs and their street on the sity. The learning activ-ties also plane the story of the demand for ears and explain the drain on the cities sense of space, clean air, and safe streets in one of the lessons, the students simulate a court trial on the charge "The Cur Has Done Permanent Injury to charge. "The Car has Done Permanent injury to Humanity." There are fout tessons in this unit They are designed to fit into esisting segments of intruction in U.S. history and civics courses. Complete teacher and student majerials are provided. (BB)

₹Ð 157 765

SE 024 767

SE 026 787

ouse, Rusa . And Others Columbia County Environmental Resource Guide, Grades 7-12.

Florida State Dept. of Education, Tallahausee Office of Environment Education. Pub Date 77

Note—113p.: Not available in hard copy due to marginal legibility or original document EDRS Price MF-50.83 Plus Postage. HC Not

Available from EDRS.

Descriptors—Conservation Education, Curricu-lum Guides, hiergy, "Environmental Educa-tion, Instructional Materials, Natural tion, Instructional Materials, Natural Resources, Pollution, Population Foucation.

*Secondary Education, Teaching Guifes
This environmental resource guide consists of
objectives for grades 7.12 and activities for jumors and seniors in high school. The environmental objectives include understanding the following concepts (1) interdependency in nature, (2) finite resources; (3) wise use of resources; (4) change, and (\$) man's environmental tesponsi-bility. The activities are divided into two sections: (1) natural resources - water, air, land, and energy, and (2) population patterns, population problems, pollution. Each activity consusts of a title, objectives, procedures, suggestions for teachers, and a ctedit line (Author/RH)

ED 167 401 Brown, Evelyn And Others

Energy, the Environment, and the Economy:
Mathematics in Energy, Grades 8-9.
National Science Teachers Association, Washing.

ton, D.C. Spons Agency—Department of Energy, Washington, D.C.

Report No.—HCP/U-3841-02 Pub Date—Nov 78 Contract—EX-76-C-10-3841

Contract—EX.76-C-10-3841

Note—10Sp. Not available in hard copy, due to marginal legibility of original document

Available from—U.S. Department of Energy, Technical Information Center, P.O. Box 63. Oak
Ridge, Tennessee 37830 fno price quoted)

Pub Type—Guides—Classroom—Teacher (052)—
Guides—Classroom—Learner (051)

EDRS Price MF-50.83 Plus Postage. HC Not Available from EDRS

Available from EDRS.

Descriptors—"Curriculum Enrichment. Decimal Fractions, "Energy, Fractions, "Junior, High Schoolt," "Mathematical Applications, "Mathematical Applications, "Mathematical Applications," ematics Education. Percentage. Problem Solving.

Rauos (Mathematics)
Identifiers—"Energy Education, National Science
Teachers Association, "Project for an EnergyEnriched Curriculum

This publication is part of a series of instructional units produced by NSTA's Profest for an Energy-Englished Curriculum. The teacher's manual and the atudent guide for a mathematics unit in this series are presented here. This unn attempts to teach students some necessary mathematical skills needed to dend some necessary maintenancial skins needed to understand quantitative facts about energy. A pre-post test is given in the teacher's manual. Fix e ac-tivities are given along with problems in (1) fractions; (2) decimals: (3) percents; (4) graphing; and (5) energy applications. (MR)

ED 167 413 SE 026 82 Clinard Lil Collins Nancy • Energy Conservation in the Home: An Energy Education/Conservation Curriculum Guide for Home Economics Teachers.

SE: 026 823

Terinessee Univ., Knoxville, Coll. of Home Economics.

Spons Agency-Department of Energy, Washing-

Report No.-EDM-1028

Pub Date—Oet 77 Contract—EY-76-S-0S-5049 Note—302p.

Available from-U.S. Department of Energy, Tech-

Available from—U.S. Department of Energy, Technical Information Center. P.O. Box 62. Oak Ridge, Tennessee 37830 (no price quoted)
Pub Type—Gundes - Classroom - Teacher (052)
EDRS Price MF-\$0.83 HC-\$16.73 Plus Postage.
Descriptors—Bibliographies. Educational Objectives, Energy, Energy Conservation. Home Economies. *Home Economies Education. *Home Management. *Information Sources, *Instructional Materials.* tional Materials, Secondary Education

tional Materials. Secondary Education
Identifiers—"Enersy Education
This guide was designed for Home Economics teachers as a source of information, instructional materials and suggested references about the energy situation. The contents in this loose-leaf guide are organized according to the most common divisions in home economics curricula. Educational objectives are provided for decisions as well as for each activity. Energy basics are provided at the end of the guide and energy facts and statistics are footnoted for further reading. A bibliography is also provided which gives publisher address and publication cost for each entry. Some of the "activities" metely present information. (MR)

ED 167 451 SO 011 525 Energy and Conservation Education: Activities for the Classroom, Grades 7-9. Energy and Man's Environment, Inc., Portland.

Oreg.

Pub Date-78

Note-308p.: For telated documents, see SO 011 523.529. Photographs throughout document may

not reProduce clearly / Available from—Energy and Man's Environment. 0224 S.W. Hamitoo, No. 301, Portland, Oregon 97201 (\$24.00)

Pub Type— Guides · Classroom · Teacher (052) EDRS Price MF-50.83 Plus Postage. HC Not Available from EDRS.

Descriptors—Class Activities. Classroom Games.
Concept Teaching. *Conservation Education.
Depleted Resources. Educational Objectives. *Energy. *Energy Conservation. *Environmental *Energy. *Energy Conservation. *Environmental Education. Environmental Influences, Fuelt, Futures (of Society). Grade 7. Grade 8. Grade 9, Instructional Materials. Interdisciplinary Approach, Junior High Schools. *Learning Activities. Natural Resources. Secondary Education. Social Studies, Student Evaluation. Teacher Developed Materials. Teaching Guides

The instructional materials and classroom activities described in the document attended to side the side of the s

ties described in the document are intended to sid teachers in grades seven through nine develop and Implement educational programs dealing with ener-By-related issues. The document is presented in four sections. Section I explains the organization of the document and summarizes how teachers should implement activities and assess student performance. Section II consists of a matrix of activities described in the document. Information is presented on grade level, time required, and subject matter. Section III

describes learning activities in six areas. (1) sources of energy. (2) uses of energy. (3) conversion of energy from one form to another. (4) impact of energy use on the environment, (5) limits of the earth's tesources, and (6) the future For each activity, information is presented on title, concept, time, implementation, materials, and optional activities. Activities involve students in performing and observing energy-related expertments such as starting fires with magnifying glasses, debating the ments of various fuels, compiling lists of energy sources used in industrial and earnmereial production, discussing energy issues with classmates and resource people. defining terms, and completing handouts. The final chapter presents information on student assessment Suggested test items are presented along with suggestions on how to use them and an explanation of the origin of test Items. (DB).

⁵ CS 204 802 ED 169°563 Environmental Education Guide; Language Arts

Project I-C-E, Green Bay, Wis.

Spons Agency—Office of Education (DHEW).

Washington, D.C.; Wisconsin State Dept. of Pub.

Spons Agency.
Washington, D.C.; Wisconsin Plate
lic Instruction, Madison.
Pub Date—[74]
Note—106p.; For related document, see CS_204
803: Best copy available
Pub Type— Guides · Classroom · Teacher (0S2)
EDRS Price · MF01/PC05 Plus Postage.
Descriptors—Behavioral Objectives, Ecology.
*English Curriculum, *English Instruction, *Environmental Education. *Interdisciplinary Ap**Control **Control *English Curriculum, *English Instruction, *Environmental Education. *Interdisciplinary Approach, Junior High Schools. *Language Arts. Listening Skills, Pollution, Reading Skills, Speech Skills, Validated Programs, Writing Skills

Identifiers—National Diffusion Network Programs,
*Project ICE

Written for use with junior high school students. this handbook links natural ecological issues with language arts instruction. It contains a series of lesson plans, each offering a number of suggested learning activities for use both in and out of class. The lessons are built around 12 major environmental concepts that form a framework for each subject area. In addition, each lesson offers subject area integration, multidisciplinary activities, cognitive and affective behavioral objectives, and suggested reference and resource materials for both the teacher and student. (FL)

ED 175 722 SE 028 805 O'Neal, Allan M., Jr., Ed. Environmental Education Curriculum Materials (7.12).

Eear Creek Watershed Environmental Education Project, Russellville, Ala.

Spons Agency—Office of Education (DHEW).

Washington, D.C. Office of Environmental Edu-

4

cátion. Pub Date-74

Grant-GOO7407358

Note-191p.; Contains colored pages which may not reproduce well

Pub Type-, Guides • Classroom • Teacher (052). EDRS Price • MF01 Plus Postage, PC Not Available from EDRS.

Descriptots-Art Education, *Curriculum Plan-ning, English Education, *Environmental Education, Interdisciplinary Approach. Mathematics Education, Outdoor Education, Physical Education, Science Education, Secondary Education. Social Studies -

Identifiers-Energy Education

This collection of teacher-developed material is designed to integrate environmental education into vanous disciplines taught in public schools. Units contain an overview, list of needed materials and equipment, background information, description of the activity, and discussion of related activity or a list of questions pertinent to the unit (RE)

ED 178 350 SE 029 287 Norman, John, Ed And Others Environmental Education Activities, 7th-12th
Grades, Project RENEW,
Wayne State Univ. Detfoil, Mich.
Spons Agency—Office of Education IDHEW),
Washington, D.C. Office of Environmental Education

cation.

_78 -78 -78 -78 Pub Date-Grant-G007701226



Note-165p.

Pub Type— Guides · Classroom · Teacher (052)

EDRS Price · MF01/PC07 Plus Postage.

Descriptors— Air Pollution Control. *Class Activities, Environment. *Environmental Education.

Environmental Influences, Interdisciplinary Approach *Land Use, Planning, Pollution, Science Education Secondary Education, *Water Pollution Control

This collection of environmental education miniunits presents class activities of a multi-disciplinary nstate appropriate for a variety of secondary-level grades. Each lesson of aminimum includes specified objectives, list of materials, and Procedures. The procedure segment sometimes. Provides several act.v ..es, including instructions, from which a student may choose Concluding the lesson are teferences or discussion questions. (RE)

ED 179-374

SE 028 822

Brown, Evelyn And Others

Energy Transitions in U.S. History, Grades 8-9,

Interdisciplinary Student Tescher Materials in

Energy, the Environment, and the Economy.

National Science Teachers Association, Washing-

tot, D.C. Spons Agency—Department of Energy, Washington, D.C. Office of Education, Business and Labor

Affairs.
Report No.—HCP/U-3841-0004
Pub Date—Jun 79
Contract—EX-76-C-10-3841 -114p.

Available from-U.S Department of Energy, Tech-

Available from—U.S Department of Energy, Technical Information Center, P.O. Box 62. Oak Ridge, TN 37830 (no price quoted)
Pub Type—Gnides - Classroom - Learner (051) — Collected Works - Serials (022)
EDRS Price - MF01/PCOS Pins Postage.
Descriptors—Energy, Energy Conservation, Environmental, Education, Fuel Consumption, Fuels, History, Education, Natural Resources, Science Education, Secondary Education, Social Studies. Studies

- Energy Education This unit is intended to give students an understanding of the influence that various sources of energy have had on entire and on understanding of the effects of energy changs. Physical properties of wood, coal, and on are examined, and the ability of these substances to give heat is considered. Students practice the mathematics necessary to understand energy conversion. (Author/RE)

ED 179 792 Humte. Barbara CE 023 547

Mathematics and Solar Energy, Solar Energy Education Project.

Education Project.

Howell Township Board of Education. N.J.

Spons Agency—New Jerrey State Dept. of Education, Trenton. Div. of Vocational Education.

Pub Date—[79]

Note—21p: Not available in paper copy due to light

and broken type: For related documents see CE 023 528-550

Pub Type — Guides · Classroom · Teacher (052) EDRS Price · MF01 Plus Postage. PC Not Available from EDRS.

Descriptors— Career Awareness, *Energy, Junior High Schools, Learning Madwirs, *Mathematics Materials, Secondary Education, Secondary School Mathematics, Solar Radiation This learning module for use with junior high

school students offers some basic career awareness in the energy field while covering some basic princi-ples and aspects of energy use, such as vecabulary, basic electricity, energy efficiency, and home utility meterreading. Math Problems are offered in volume and surface area, energy efficiency, elactrical cireuits, and work units (horsepowet), accompanied by general commensary on occupátions that might need such skills (CP)

SE 029 698

ED 180 826 SE 029 69

Jedicka, Elia, Ed.
Energy Conservation Teaching Activities for Home Economies Classrooms.

University of Northern lows, Cedar Falls, Dept. of Home Economies Education. Spons Agency—Department of Energy, Washington, D.C.
Pub Date—Jun 79

Note-58p. 1

Pub Type— Guides · Classroom · Teacher (052) EDRS Price · MF01/PC03 Plus Postage. Descriptors— *Class Activities. Consumer, Educa-tion. Curriculum. *Energy. *Energy · Conserva-tion. Fuel Consumption. Fuels. *Home *Home tion. Fuel Consumption, Fuels. *Home Economics. Home Economics Education, Home Management, Interdisciplinary Approach, Natural Resources, Nonformal Education, Recycling, Solar Radianon, Waste Disposal

Identifiers—"Encts) Education
This collection of home economies activities is intended to meet the special needs of home economies teachers who wish to include energy education activities in their entricula. The 45 activities ean be used as presented, or ean be modified to individual needs or local conditions, Each activity includes: (1) title. (2) objective. (3) activity description. (4) variations or extensions, and (5) resources. Additionally, each activity delineates appropriate grade levels, sets out the skills to be stressed, and lists the concepts taught during the activity. (Au-

ED 182 131 SE 029 772 Burkham, Phil And Others

Idaho Energy Conservation Resource Guide for Career Education, Grades 7-12.

Idaho State Dept. of Education. Boise.: Idaho State Office of Energy, Boise
Spons Agency - Department of Energy, Washing-

ton, D.C. Pub Date-Feb 79

Note-30p., For related documents, see SE 029 773-778. Printed on colored background. Pet Type Guides - Classroom - Teacher (052)

EDRS Price - MF01 Plus Postage, PC Not Availa-

bie from EDRS.
Descriptors-Career Education, Depleted Resources, *Energy Conservation, Environment, *Environmental Education, Natural Resources, *Resource Guides, *Secondary Education, Social Values, *Teaching Guides

This manual is a resource guide on energy educanon for teaching cateer education from grades seven to tweive. It contains 18 student activities which are grouped into four goal oriented units. The main objectives of the project are to increase the student's understanding that (1) Natural laws firmit energy availability. (2) Energy consumption affects both man and his environment, (3) Human values and attitudes affect energy usage, and (4) Energy consumption is necessary to maintain our life style.

ED 182 134 SE 029 775 . Armstagt. Colleen And Others'

Idaho Energy Conservation Resource Guide for Environmental Education. Grades 7-12 Idaho State Dept of Education, Boise, Idaho Stale

Office of Energy, Boise.
Spons Agency-Department of Energy, Washington. D.C.

Pub Date-Feb 79 Note—42p.: For related documents, see SE 029 772-778. Printed on colored background Pub Type—Guides - Classroom - Teacher. (052)

EDRS Prica - MF01 Plus Postage, PC Not Availa ble from EDRS.

Descriptors—Depleted Resources, *Energy Con-servation, *Environmental Education, *Natural Resources, *Resource Guides, Science Educa-tion, *Secondary Education, Social Values,

Teaching Guides
This manual is a festionine guide on energy conserration for teaching environmental education in
grades seven to twelve it contains 25 student activities which are grouped into four goal offented units. The main objectives of the project are to increase the student's understanding that: (1) Natural laws limit energy availability; (2) Energy consumption affects both man and his environment: (3) Human values and attitudes affect energy usage; and (4) Energy consumption is necessary to maintain-our lifestyle. (SB)

ED 182 136 SE 029 777 McCurry, Niki And Others
Idaho Energy Conservation Resource Guide for

Language Arts. Grades 7-12.
Idaho State Dept. of Education, Boise, Idaho State

Office of Energy, Boise

Spons Agency-Department of Energy, Washing-

Pub Date—Feb 79

Note—78p., For related documents, see SE 029

772-778 Printed on colored background

Pub Type—Guides - Classtoom - Teacher (052) EDRS Price - MF01 Plus Postage, PC Not Available from EDRS.

Descriptors—Art. Depleted Resources. *Energy Conservation. Environment. *Environmental escriptors—Art. Depleted Resources. Energy Conservation. Environment. *Environmental Education. *Language Arts. Natural Resources, Reading. *Resource Guides. *Secondary Educa-tion. Social Values. *Teaching Guides. Writing

This manual is a tesource grade on energy conservation for teachers of language aris from grades seven to twelve. It contains a multitude of student activities which are classified into I thematically oriented units. The aim of all the activities is to increase the student's awareness and knowledge of energy conservation. The four basic goals of the project are to increase the student's understanding that. (1) Natural laws limit energy availability: (2) Effergy consumption affects both man and his environment; (3) Human values and attitudes affect energy usage: and (4) Energy conservation is necessary to maintain our lifestyle. (SB)

ED 193 061 SE 072 963

49c; John E. And Others

Computations About the Sources and Conservation

50 Energy.

School Agency—Florida State Dept of Education.

Tallebassee Office of Environment Education

Pub Date—19

Note—6p; Contains occasional light and broken

type.
Pub Type- Guides - Classroom - Learner (051) -

EDRS Price - MF01/PC04 Plus Portage.

Descriptors—Elementary Secondary Education.

**Energy Energy Conservation. Environmental

Education, *Interdisciplinary Approach, Junior High Schools, *Mathematics Education, Math-guaties Instruction, *Resource Materials, *Sec-ondary School Mathematics, Secondary School Seie nee

Identifiers- Energy Education

Energy-related concepts are the subject of mathematics problems in this supplementary workbook for secondary school students. Exercises involving light heat, motion and energy conservation assist students in, understanding whose numbers, decimals, fractions, ratios proportions, percenis, and therereation and interpretation of graphs. The individual energy topics and the associated calculations are described together in order to facuitate comprehension of both mathematical operations and scientific concepts for teachers each problem is goded assording to the type of math skill required Also provided are a glossary and an answer key. (WB)

SE 032 965 ED 193 063 Brennan, Matthew J. Energy and My Environment: 7-9 Teachers' Guide.

Spors Agency — Five de State Dept of Education.

Ashinhassee Office of Environment Education
Pub Date—Nov 9

Note-160p. For related document see SE 032 964 Contains occasional light and broken type
Pub Type— Guidev - Classroom - Teacher (052)
EDRS Price - NIF01 PC07 Plus Postage.
Descriptors— Energy - Energy Conservation
- Environmental Education Junior High Schools

Physics *Resource Materiale, Science Education,

Science Instruction, Secondary Education "Se-condary School Science, Social Studies Over 60 energy education activities comprise tins manual for junior night school teachers. These lessons are experience-priented and emphasize questioning, the use of reference materials. collection, and discussion. For every grade level, there activities dealing with each of seven recurring ennieptual schemes are chicided Lesson Plans inesade directions for initial and developing the actuaty, suggested excensions of the tearning experience, and a listing of the lesson's concept and objective (MB)

ED 194.353 SE 033 197

LD 194.353
LaSalle, Donald P., Ed. And Others
Energywatch: Designing Energy Education Into
the Curriculum, Voluma 2-Grades 7-12.
Connecticut State Dept. of Education, Hamford.,
Talcott Mountain Science Center, Avon. Conn
Pub Daic—Nov 80
Grant—NESEC.EG.** G.01.1044

ote—289p. For related document, see SE 033
196. Funding received from the Nonheast Solar Energy Center

Available from—Dr. Sigmund Abeles, Connecticut State Dept. of Education, Box 2219, Hartford, CT

40 energy related discussions and projects for use in conjunction with secondary school courses in matriematics, seience, social studies, and language aris Designed to help students discover, ways to study and conserve energy, the activities also siress afterand energy sources and their applications. Lessons are organized under four varegories 111 energy conservation. (2) solar energy concepts (2) solar energy applications, and (4) alternate energy, sources. Table cal among these activities are constituting a solar collector, debsting offshore dritting proposal tracking the sun by computer, and investigating the effects of thermal pollution. Included in the lessen plans are teacher background material caggestions for lesson preparation, lists of related activities, stadent handours, and step-by-step procedules for con-ducting the activities (WB)

Garpenter, James C. Fraser, Kathryn M. Environmental Approaches to Prehistory/Archa-eology, Activities Designed to Supplement a Course in North American Prehistory/Archa-eology at the Junior High or-High School Level, Curricolom Series, Number 2. Mutray State Univ. Ky. Center for Environmental

Education.

Pub Date—Sep 80
Note—65p: Not available in hard copy due to copyright restrictions.

Available from—Center for Environmental Educa-tion, Murray State University, Murray, KY 42071 (52,00).

Pub Type- Guides · Classroom · Teacher (052) EDRS Price · MF01 Plus Postage. PC Not Availa

ble from EDRS.

Descriptors—"Anthropolosy. "Archaeolosy. An Activities. "Cultural Education. Environmental Education. Settence Education. Settence Education. Secondary Education. Social Studies Presented are 17 activities designed to supplemental interest problems.

ment junior or senior high school studies in prehis-tory and archaeology. Stressed throughout the manual is the changing relationship between humanual is the changing relationship between humans and the environment. The learning expeniences fall into three categories. (1) how we study prehistoric cultures. (2) how prehistoric peoples lived, and (3) why we value prehistory. Activity plans list the concept and objectives, describe the procedure, provide discussion questions, and present suffestions for related activities and reterences. Typical amon8 the lessons are "Trash Can Dis." an execution of a trash can using acteh people, and materials. "Mammoth Hunt." in which stidents real materiels. "Mammoth Hunt." in which students act out a prehistoric hunt, and "Bandeier." a simulation game that investigates issues in cultural re-sources management. Also included is an annotated bibliography of resource materials and teacher sids. Several listings relate to the archaeology and prena-tone peoples of Kentucky, Illinois and surrounding states. (WB)

ED 199 109

SE 034 677

Simonis Doris G

Pub Date - 80 Note - 1889. For related documents, see SE 034.

Program, 1977 and 1978. Spons Agency-Wisconsin Univ., Madison, Sea Grant Program.

A Sourcebook of Marine Activities Developed in the Milwaukee Great Lakes Summer Education

ED 207 851

Hanty, Richard E., Ed.

Grant Program.
Pub Date—[79]
Note—99p.
Pub Type— Guides · Claseroom · Teacher (052)
EDRS Price · MF01/p C04 Plus Postage.
Descriptors— *Environmental Education. Field
Trips. *Interdisciplinary Approach. *Learning
Activities. *Sesence Activities. Setence Education. Secondary Education. Secondary School
Science. Social Studies. *Teaching Guides. *Water Resources. ter Resources

[dentifiers- Great Lakes, Marine Education

Twenty-seven activities desiing with the marine environment of the Great Lakes are presented. De. signed for junior and senior high school students, these activities develop awareness of the biological. physical, social, economical, and aestheue dimen. sions of the Great Lakes. Field thes, films, discussion, and hands-on activities are used to teach the" students about a variety of topies including ports, shipping. Wastewater treatment, sunken treasure, geography, recreational and occupational skills, engeography, recreations and occupations same va-ergy, pollution, fish, an and ecology. The format for the activities varies, but information may include objectives, materials, learning activity, student di-rections and handouts, contact person for field trips, and background information. (DC)

ED 211 374 Buttow, John W. And Others SE-036 056

How Do People Use Lighthouses and Narigational Charts? A Marine Education Infusion Unit. Revised Edition.

Maine Univ., Orono. Coll. of Education. Spons Agency—National Science Foundation, Washington, D.C.

1937

Washington, D.C.
Pub Date—80
Grant—NSF-SER-8008177
Note—71p.; For related documents, see SE 036
055-059 and ED 177 014 Produced through the
Northern New England Marine Education Project. Contails colored print which may not reproduce well.

Available from-Nonbern New England Marine

Education Project, Univ of Maine at Orono, 206
Shibles Hall, Orono, ME 04469 (53 00).
Pub Type:— Guides · Classroom · Teacher (052)
EDRS Price · MF01/PC03 Plus Postage.
Descriptors— Activity Linus, Elementary Second-

ary Education, Environmentel Education, *Interdisciplinary Approach. Intermediate Grades. Junior High School Students, "Map Skills, Marine Biology, Mathematics Education, "Navigation, Oceanography, Seafarers entifiers—"Marine Education

Identifiers Activities concerning navigational charts and aids

678-683 Pages 85-89 removed due to copyright restrictions. This introduction is the same for all a modules, and will need to be used in conjunction with each module

with each module
Pub Type—Guidel Classroom Teacher (052) —
Reference Maierials (130)
EDRS Price - MF01/PC08 Plus Postage.
Descriptors—Energy, Energy Conservation, "Environmental Education, "Fused Curriculum,
Home Economics, "Interdisciplinary Approach,
Science Education, "Secondary Education, Social

Identifiers - Energy Consumption

Presented is the Introduction for the lowa De-loped Energy Activity Sampler (IDEAS), anul-tidisciplinary energy, education program degreed for infusion into the curriculum of grades 7-12. Infor infusion into the curriculum of grades 77.2, Included in the pro873m are activity sets for Home Economics (SE 034 678), Industrial Ams (SE 034 679), Language Arts (SE 034 680), Mathematics (SE 034 681), Science (SE 034 682), and Social Studies (SE 034 683). This introductory section is intended for use with each of the subject-matter activity samplers. Provided is teacher background information on energy topics such as heat espacity, energy production and consumption, therey reenergy production and consumption, energy re-sources, exponential growth, and energy use in agriculture. Also presented area glossary of energyrelated terms and an atmorated bibliography of about 300 selected materials on energy. (Author WB)

SE 035 729

are presented to help lifth through ninth-grade students learn about the shape of the sea, its coast, and contours, and about the road signs of the sea which warn assinst danger and help maniners locate their positions. Teacher background information includes information on marine charts, navigational aids, lighthouses, and navigation. The multidisciplinary activities involve identifying lighthouse characteristies and chart symbols, reading about lightnouse keepers, writing poetry and log entries, and doing navigational problems. Lists of manne charts, gov-ernment publications, books and articles, and places to stall are provided for the unit, informational sheets and student handouts are included. (DC)

ED 211 375 SE 036 057

Buttow, John W. And Others

Is Our Food Future in the Seat, A Marine Education Infusion Unit on Aquaculture and Sea Farming. Revised Edition.

Maine Univ. Orono Coll of Education.
Spons Agency—National Science Foundation,
Washington, D.C.

Washington, D.c.,
Pub Date—81
Grant—NSF-SER-8008177
Note—53p. For related documents, see SE-036
055-059 and ED 177 072 Produced through the
Northern New England Marine Education Projeet Contains colored print which may not reproduce well.

produce well.

Available from—Nonhern New England Manne Education Project. Univ of Maine at Orono. 206 Shibts Hall. Orono. ME 04469 (53.00).

Pub Type—Guides - Classroom - Teacher (052) EDRS Price - MF01/PC03 Plus Postage.

Descriptors—Activity Units. Agriculture. Elementary Secondary Education. Environmental Education, *Fisheries, Instructionar Materials, *Interdisciplinary Approach. Intermediate Grades, Junior High School Students. Manne Biology. Oceanography. Science Activities, Science Education. *Water Resources identifiers—Aquaeulture. *Manne Education

Identifiers—"Aquaeulture, "Manne Education Designed to introduce middle and junior high school teachers and students to aquaeultire and sea farming, the information and lessons in this up ! focus on the biology, economies, and gesnonomias of these fresh and salt water activities. An extensive section containing leacher background information desembes how to farm shouligh and find so, summarizes major developments in aquaculture in the northern New England area, and discusses specific shellfish and other species. Five mutual suplinary activaties focus on mussels, crayfish, and scun, i. ture equipment. The unit concludes with a simula-tion game about the oyster chiture industry. Lists of erganizational and commercial resources are proneed as well as bibliographies of "echnical materials, general books, and every books. (Illustrations and student worksheets are included. (DC)

SE 035 428 * Safe Drinking Water for Alaska: Curriculum for Grades 7-12. South East Regional Resource Center. Juncau,

Alaska.

Alaska.

Spons Agency—Alaska Dept. of Environmental
Conservation, Juneau.
Pub Date—Feb 80
Nute—204p.; For related document, see SE 035
427. Contains occasional light and broken type.
Pub Type—Guides · Classroom · Teacher (052)
EDRS Price · NIF01/PC09 Plus Postage.
Descriptors—Environmental Education, Health
Education, *Public Health, Science Education,
Science Instruction, Secondary Education, *Secondary School Science, Social Studies, Utilities,
*Water Pollution, *Water Resources
The 10 lessons in this Manual for secondary
school teachers address concerns ranging from wa-

school teachers address concerns ranging from water sources and pollutants to government programs and water treatment methods. The materials are intended to help students understand the sources of drinking water, how water can be made safe for drinking, and the health threat that contaminated water represents. Although this curriculum felates primarily to science, health, and social studies lessons, the follow-up activities also involve skitls developed in art and English classes. Each lesson has considered at a second soft developed. Plan contains a materials inst general infroduction, vocabulary, instructional activities, and suggested activities, and suggested activities, which leason citiled "Alaska" Water Sources and Problems." are detailed data from each of the state's regions. (Author/WB)

ED 212 461 SE 035 430 Clean Air for Anchorage and Fairbanks: Cur-riculum for Grades 7-12.

outh East Regional Resource Center, Juneau,

Spons Agency—Alaska Dept. of Environmental Conservation, Juneau.

dies, Urban Problems, Weather
Ten lessons on air and air pollution comprise this
guide for secondary school teachers. Among the
topics addressed are pollutants, health effects,
weather inversions, personal involvement, and automobile emissions. Particular emphasis is placed
upon problems in Alaskan cities. Lesson plans contain a materials list, background information, questions, and activities. The materials can be used in
conjunction with classes in health, government,
science, and social studies; suggested follow-up activities involve skills developed in art, English,
drama, and library classes. A list of field tip sites
and teacher resources is included. (Author/WB)

Hargit, Elizabeth And Others
Studyling Arkansas' Valuable Energy (S.A.V.E.);
An Energy Curriculum for Arkansas' Schools,
Grades 7-12.

Arkansas State Dept, of Education, Little Rock. Spons Agency—Ozarks Regional Commission, Lit-tle Rock, Ark.

Pub Date-81 Grant-10-GR-0-147

-621p.; For related documents, see SE 036 241-242.

Pub Type- Guides · Classroom · Teacher (052) EDRS Price · MF03/PC25 Plus Postage.

EDRS Price - MF03/PC25 Plus Postage.
Descriptors—*Conservation Education, Depleted
Resources, Electricity, *Energy, *Energy Conservation, Environmental Education, Fuels, *Interdisciplinary Approach, *Learning Activities,
Natural Resources, Secondary Education, Solar
Radiation, State Curriculum Guides
Identifiers—Alternative Energy Sources, Arkansas,
*Energy Education
Designed for grades seven through twelve, this

Designed for grades seven through twelve, this guide contains 50 interdisciplinary lessons on energy which were developed to assist Arkansas ergy which were developed to assist Arkansas teachers in incorporating energy education into existing curricula. Program objectives are listed under four broad categories: (1) energy sources, alternatives, and conversion; (2) energy uses; (3) conservation; and (4) limits and impacts. Each lesson follows a uniform format which includes category of objectives this category.

tives, title, related subject areas, energy types, grade level, time, materials, learning objectives, task analysis (prerequisite knowledge and skills), and procedure (preparation, steps in lesson, evaluation, and follow-up activities). A section on teacher background information and student worksheets follow each lesson. A glossary, list of selected references, and program evaluation forms are provided. (DC)

SE 036 095

EJJ 213 382

Sly. Carolie Rose, Larry

Environmental Education Gulde, Volume 3: An

Environmental/Energy Education Primer for

Grades Seven through Nine, 1981-84.

Alameda County Superintendent of Schools, Hayward, Calif.; California State Dept. of Education,

Pub Date-8[

Note—301p.; For related documents, see SE 036 093-096. Contains colured print which may not eproduce well.

Available from—Office of the Alameda County Su-perintendent of Schools, 685 "A" St., Hayward, CA 94541 (57.00; \$25.00 for complete set of 4 volumes).

Pub Type - Guides - Classroom - Teacher (052) EDRS Price - MF01 Plus Postage, PC Not Available from EDRS.

Descriptors-Conservation Education. riculum Development, Decision Making, Energy, Energy Conservation, Environmental Education, fastitutions, *Interdisciplinary Approach, Junior High Schools, *Learning Activities, Natu-ral Resources, Physical Environment, Secondary Education, Secondary School Curriculum, Urban **Environment**

Identifiers— California, Energy Education, Envi-momental Management

As one of four volumes in a K-12 series, this teaching guide contains classroom and outdoor activities pertaining to the environment and energy for seventh through minth grades. The guide was developed based upon the understanding that environmental education can serve as an instructional umbrella covering many topies (conservation, maumbrella covering many topics (conservation, ma-rine education, city planning, population, etc.) and that it is not a specific subject but an interdiscipli-nary theme. The activities are organized around four major topics: natural environment, buils envi-ronment, social institutions and decision making, and energy and environmental resource manage ment. Each section begins with a summary of issues related to that topic followed by a listing of major concepts and their associated objectives. One accontests and their associated objectives (approxi-tivity is presented to teach each objective (approxi-mately 40). Objectives correspond with those contained in the California "Course of Study" guide for 1981-84, Each activity provides a brief description, the objective, purpose, time, topics, location, materials, lead-up and preparation procedures, and follow-up activities. Appendices list the sources for the activities. California resource agencies, and teaching materials available from these agencies. In the beginning of the guide, a procedure is outlined for planning an environmental education program.

ED 214 841 SO 013 973 Gore, Patrick D. And Others

Teaching Energy Awareness. Environmental Education Series.

Denver Univ., Colo. Center for Teaching International Relations.

Spons Agency—Denver Univ., Colo, Graduate
School of International Studies.; Denver Univ.,

Colo. School of Education.

Colo. School of Education.

Pub Date—Aug 80

Note—192p.; Colored pages and small print type
may not reproduce clearly in microfiche.

Available from—Center for Teaching International
Relations, University of Denver, Denver, CO
80208 (\$12.95 Plus \$2.00 postage and handling).

Pub Type—Guides Classroom Teacher (052)

EDRS Price - MF01 Plus Postage, PC Not Available from EDPS. ble from EDRS.

Descriptors-Basic Skills. Conservation Education. Elementary Secondary Education, Energy, Energy Conservation, Futures (of Society), Learning Activities, Prediction, Student Attitudes, Teaching Guides, Teaching Methods

Identifiers-- Energy Education

The major objective of the 32 activities in this teaching guide is to make students aware of energy issues. Although the activities are designed for students in grades 4-12, they can be adapted for younger students and for adults. Departing from the standard expository approaches found in most cur-riculum materials, these teaching strategies include. starter exercises to spur interest in and discussion of starter exercises uspin interest in and discussion of topics on energy, data gathering, and using community resources. The first of the six sections contains activities for identifying student attitudes about energy issues. Section two provides activities for teaching vocabulary, map reading, comparison/ contrast skills, interdependence concepts, and math skills pertaining to energy topics. Presenting data for studying energy issues is the goal of section three. Activities focus on teaching students how much energy appliances use and alternatives to this kind of energy use. In section four, students are asked to think about what may happen with energy in the future, what people could do to affect energy in the future, and what ideas students would place in an energy platform. The fifth section provides activities for demonstrating, creating, and displaying ideas for energy alternatives. Examples of these special activities are to have students design Tshirt with a picture of energy, build a solar hot dog cooker, and conduct a poster contest. Each activity contains an introduction; a list of objectives; and information about grade level, time required, and materials about grade level, time required, and materials needed. The general teaching procedure has a basic skills focus. Often there is a debricfing and question section. The last section contains handouts. (Author/NE)

Secondary

ED 017 377 RC 002 319 AN OUTLINE FOR TEACHING CONSER-VATION HIGH SCHOOLS.
Department of Agriculture, Washington, D.C.
Report Number PA-201

Pub Date 52

Note—23p EDRS PRICE MF-\$0.25 HC-\$1.00 Descriptors—*CONSERVATION EDUCATION.
*CURRICULUM. *HIGH SCHOOLS. ATEACHING, ART, BIOLOGY, CHEMISTRY, BOOMICS, ENGLISH, GENERAL SCI-ENCE, GEOGRAPHY, HISTORY, HYGIENE MATHEMATICS, PHYSICS, PUBLIC SPEAKING, SOCIAL SCIENCES. PUBLIC

This outline has been organized in a form which permits the teaching of conservation to the greatest number of students, by interweaving the subject with the Physical and social sciences commonly taught in high schools. The conservation of natural resources is an integral part of these sciences and becomes more meaningful to students when the interrelationship is accomplished. Not all the possibilities of integrating observation into the related subjects have been explored, but most of the obvious relationships between current subject matter and conservation are pointed out. The entire field of natural resources is covered, with particular emphasis on soil and water. (ES)

ED 055 015 SO 001 947 Project Canada West, Canadian Environmental Concepts.

Western Curriculum Project on Canada Studies, Edmonton (Alberta). Pub Date Jun 71

iote_420

EDRS Pelec 31F-\$0.65 HC-\$3.29

Descriptors—Biology, City Problems, Concept Teaching, Curriculum Desctopment, "Ecology, 'Environmental Education, "Human Geog-raphy "Industy training Interdisciplinary Ap-proach, Natural Sciences, "Politution, Projects, Secondary Grades, Social Sciences, Urban Environment

Identifiers-Canada, *Project Canada West The overall objective of the curriculum development project is to develop a general high school level intendingularity course on environ, ment studies. This potential five to ten month course is outlined as follows ecology, water polition, air polition note pollution, population socioeconomic implications, and reactive management. The general intended learning carecomes listed are 15 to understand the charging following man in Cagada with respect to us equationship with the coosystem. It to have a better understanding of the natural and unnatural state of the environment, 3) to understand how an ex-The overall objective of the curriculum of the environment, 3) to understand how an exthe ecosystem: 47 to understand the ecogram ca-implication of poliution with reference to pryster and political boundaries. 5) to form an include and position boundaries. So to form all include approach in modern simulations, of the development of the need for a manufacturing of the need for a manufacturing of the need for man. 7) to understand the attitudes of reor 8, 9 to learn laboratory techniques applicable. 4) t understand the effect of urbanization in escauce an Unnatural ecosystem; and, (0) to have the student examine and develop his own value system The course outlines, concepts, and intended out. . comes are included for only the first two ue. Is en ecology and water pollution, along with a project status teport and the evaluation intentions. (Author/SBE)

\$10 055 864 kcology and Human Values. -SE 012.495

Pub Date [70]

Note—659.
EDRS: Mice:MF-\$0.65 HC.\$3.29
Descriptors—Behavior Development: *Course Content. Ecology, Environment; *Grade 12, Human Digoity. *Interdissiplinary Approach. al Sciences. *Social Studies. Sociocul

tural Patterns. Values

"Ecology and Human Values" is an inter-disciplinary course designed for sector year high school students in social studies and or science its main thrust is the investigation of human values as they relate to the environment, although rooted in the natural sciences as a means of un derstanding the complexities inherent in the environment Use is made of the ease study approach to environmental issues teontroversial questions) together with participatory research in the community Mulu-test, small group inistration, individual projects. The smultation techniques are also incorporated to develop and techniques are also incorporated to develop all understanding and a corresponding value and behavior change in the inter-relationship of man to his biophysical and sociocultural environment. The coursely oblined in eight units. (11 An Introduction To. Crisis. f21 Ecology. (3) The Nature of Man. (4) Historical Perspective of Ecology. (5) Population. (6) Science-Technology. (7) Concerns Caused by Science-Technology, and (8) What is the Propes Role of the Scientisticities. Industrialist, and Administrator? Each unit indicates the subtopics to be covered, objectives, generalizations, methodology, culminating activities, evaluation, resources, and supplementaactivities, evaluation, resources, and supplementary information where appropriate. (BL)

ED 055 940

Buchanan, John And Others

A Tenence Guide for the Course: "Toward she Year 2000" (A Multi Disciplinary Approach. Cherry Creek High School, Englewood, Colo Spons Agency—National Science Foundation, Washington, D.C.

Pub Date 70 Note - 175p

EDRS Price 31F-\$0.65 HC.\$6.58

Descriptors-City . Problems, Communication escriptors—City - Problems, Communication Skills, Computer Assisted Instruction, Decision Making Skills, "Environmental Education, Human Geograph), Instructional Materials, "Interdisciplinary Applianch, "Problem Solving, Secondary Grady, Simulation, "Social Planning, Social Problems, Social Studies Units, Teaching Guides, "Team Teaching, Technological Advancement," teal Advancement

This guide was developed jointly by members from the Departments of social studies, mathematies. English, and reience it sets forth the maties. English, and rejence it sets forth the methods, materials and procedures of operation for the interdisciplinary teaching of this course. The overall objectives of the course are. () so teach the elements and process of decision-making. 2) to improve the process of communication, 3) to develop an awareness of the interaction between society and technology, and, 4) to develop an awareness of the present level of technology and the diffections technology may take in the future. Student centered problem solving groups will deals with relevant real life situations. Small, including and large groups will be randomly selected and flexibly scheduled. The situations Small, medium, and large groups will be randomly selected and flexibly scheduled. The units are: Elements of Decision, Making, Communications, Nation Building, International Simulation including computer instruction: The Environmental Crisist Labor vs. Management; and, Major Urban Problems. (Author: SBE)

ED 058 127

SO 002 229

Lee, Leroy And Others
Planning for an Ecology Action Unit/Course,
Madison Public, Schools, Wis.
Pub Date 70

EDRS Price MF-\$0.65 HC-\$3.29

EDRS Price MF-\$0.65 HC-\$3.29

Descriptors—Activity Learning, Affective Objectives, *Biology, Community Action, Community Resources, Curriculum Guides, *Ecology, *Environmental Education, Interdisciplinary Approach, Secondary Gradea, *Social Studes, *Student Centered Curriculum, Student Parallel Control Communication Commun ticipation, Student Projects, Teacher Diveloped Materials, Values
The purpose of these plans, developed by biology leachers, social studies teachers, and high

school students, are, 1) to develop a systematic method of becoming informed on sisues not sole. ly based within traditional disciplines, 2) to pro-

vide atudents with an opportunity to help deter. mine the direction and content of their studies.

3) to aid in expanding the traditional view of earning as a classroom activiry, and. 4) to eedefine teaching learning roles to allow individual goal tetting, self evaluation, and use of community resources. An introduction sets out the general context of ecological study, the assumptions on which the unit is based, and the aumptions on which the unit is based, and the general purpose of the course. The unit is lab and problem centified, and is built around an issue of the individual student's setection. The course is structured into two separare phases, the second one optional but highly destrable. Possible objectives of the course are listed, the framework of the course is discussed, and several pages show the suggested organizational frameworks in chart form. They include the intendisculpinary course. form. They include an interdisciplinary course, a unit within biology or social studies, an interdisciplinary unit taught in both biology and social studies courses. Some ideas are discussed for differentiating between an area of environmental concern and specific environmental problems. • (A.B)

ED 066 298 SE 014 181 Handbook of Environmental Education Strategies. New York State Education Dept., Albany. Pub Dale 72 Note—28p. EDRS Price MF-\$0.65 HC-\$3.29

Descriptors- * Educational Strategies. * Environ. mental Education Instructional Materials, Learning Activities, Motivation Techniques, Relevance (Education), *Secondary Grades,

*Teaching Guides
The educational approach of this guide involves instructional strategies for integrating environmental concerns into subject matter areas.

Its objective is to enumerate and illustrate numerous interdisciplinary strategies, showing how they and other teaching devices may serve en-vironmental education goals within the operative instructional mode. Strategies suggested include use of concept-centered activity packages, common denominators, those environmental concepts showing mulu-faceted curticular potential, as survival, interdependence, searcity, recycling, planning, valuing, optimism, interaction, right vs. responsibility, social forces, and change, the printed media of newspapers, editorials, and earprimed media of newspapers, editoriass, and cartioons; student in nonlvement in community problems and projects, case studies, readings and quotations as learning activities to improve reading skills and provide incentive for future study; student environment/ecology clubs, out-of-class-room experiences; student projects, and family participation activities, Examples were prepared participation and services by the most prepared as resources for teacher use primarily at the middle school, jumor and senior high school levels. However, the strategic focusing upon basic environmental concepts, family participation activities, student Projects, and Out-of-classroom expenses, are adoptable to lower elementary. periences are adaptable to lower elementary grades, (BL)

SE 014 502 ED 067 244 Environment, Teacher Manual, Senior High, Idea L Land.

Environmental Education Project, Grafton, III.

Spons Agency—Bureau of Elementary and
Secondary Education (DHEW/OE). Washing. ton. D.C.

Pub Date [72]

Note-54p. EDRS Price MF-\$0.65 HC-\$3.29

Descriptors—"En-ironmental Education, Instruc-tional Materials, "Land Use, Learning Activi-ties, Natural Resources, "Secondary Grades, "Teaching Guides, Units of Study (Subject Fields)

identifiers—Elementary Secondary Education Act
Title III, ESEA Title III
The Envisonmental Education Project Center

has developed these guidelines for teaching a unit in enerconmental studies. It is their intention that the teacher and student ecoperatively plan the approach and content to be used during the course of study. In this unit about land, teacher resource information and student material are

combined to form a teacher's manual for use in the senior high grade levels Project ubjectives, behavioral objectives, and pre- and postitest questions introduce the unit sections followed by ideas, actions, and/or activities to develop awaregess of land and its uses. Major inpies of discus-sion range-fibring units and animals associated with soil to litter. Senirel measures, and resource use. Field trips emphasiting concepts presiously learned are suggested and additional sources of information and materials for buth students and teachers are listed. This work was prepared under an, ESEA Title III contract for the project "Operation Survival Through Environmental Edueation." (HL)

ED 067, 245 SE 014 503 Environment, Tracher Manual, Primary, Idea 2, Alr.

Environmental Education Project. Grafton, III Spons Agency—Burgau of Elementary and Secondary Education (DHEW/OE). Washington, DC

Pub Date | 72 | Note = 58 p EDRS Price MF-\$0.65 HC-\$3.29

Descriptors—"Air Pollution Control. "Environ-mental Education. Instructional Natenals, Learning Activities. Natural Resources, "Pri-man, Grades, "Teaching Guides, Units of Study (Subject Fields)

Identifiers—Elementary Secondary Education Act Title III, ESEA Title III The Environmental Education Project Center has developed these guidelines for teaching a unit in environmental studies It is their intention that the leacher and student cooperatively plan the approach and content to be used during the course of study in this unit about air, teacher resource information and student material are combined to form a teacher's manual for use in the primary grade levels. Project objectives and vioral objectives tatroduce the unit followed by ideas, actions, and/or activities to develop awareness of air qualities and pollution effects Major topics of discussion range from ideatifying sources and symptoms of air pollution to testing air quality and developing constructive action to combat pollution Field trips emphasizing con-cepts previously learned are suggested and addi-tional sources of information and materials for tonal sources of information and materials top both students and teachers are listed. This work was prepared under an ESEA Title III contract for the project. Operation Survival Through En-vironmental Education." (BL.)

ED 068 337 SE 014 908

Grass, Franktin Carso, Dennis To Save the Earth. Tool Kit to Our Environmental Quality Indea. Vational Wildlife Federation, Washington, D. C.

Pub Date 71

Note-16p Available from - National Wildlife Federation. 1412 Sixteenth Street, N.W., Washington, D.C. 20036 (Free)

EDRS Price NF. \$0.65 HC.\$3.29

Descriptors Legology, "Environmental Educa-tion, Instructional Materials, Learning Activi-ties, "Program Development, Quality Control, "Secondary Grades, "Student Projects, *Teaching Guides

Based on an exemplary case study, this booklet illustrates a program for improving environmental quality. Designed for teacher use, it espains how to start a program for learning about environmental quality, as well as action to take regarding environmental insprovement. The approach is interdisciplinary, stressing skills involving questioning. gathenng and evaluating data, meeting and interstewing people, translating information into statistics, and making presentations It is an attempt to lead students from research and discussion to constructive action associated with en-vironmental issues (BL)

SE 015 199

Carson, S. MeR Environmental Studies. The Construction of an "A" Level Syllabus.

National Foundation for Educational Research in England and Wales. London.

Pub Ďate 71

Note-157p : NF'\$0.65 HC.\$6.58

Analysis. Descriptors—Content Development. *Curriculum Guides. *Environmental Education, Foreign Countries, Reports. Secondary Education Identifiers—England

In response to the increasing Social voncern for in response to the increasing sheld concern for the quality of the environment and its conserva-tion, and the need to ensure that all pupils in their final years of schooling he brought in share that concern, teachers in Heriturdshire. England, have constructed an 'A' level entriculum or syllabus of environmental studies for the sisth form. Based on an interdisciplinary approach, the siudies enable students to examine the ecological interrelatedness of the environment and the place

of man, the impact of human society on the environment, and the possibilities of management and control. Presented in this report is a review of the emergence and present state of environ-mental studies in Britain followed by an assessment of the theme or content of environmental studies/sciences. The approach to such studies is discussed from various points of view sociological. Biological urban-rural and world conserva-tion problems. Subject information and teaching notes for the syllabus are developed in four see tions (1) processes and systems of the natural environment and the limits of the resource base. (2) the eeosystem, (3) the interaction of man and the environment, and (4) environmental conflicts and planning a field study. Criteria for examinations and an extensive list of resource materials are also included (BL)

ED 077, 723

SE 016 280₆ Strand IV Environmental and Community Health. Ecology and Epidemiology of Health. Grades

10. 11. and 12. New York State Education Dept.. Albany Bu-reau of Secondary Curriculum Development. Pub Date 70

EDRS Price MF-\$0.65 HC-\$3.29
Descriptors— Community Health. Comprehen-Descriptors—"Community Health. Comprehensive Programs." Curriculum Guides. "Eculogy.
"Environmental Education Instructional Materials. Learning Activities. Models. "Secondary Grades. Teaching Guides Identifiers.—Epidemiology

A frame of reference concerning health impliance of the inferretion of numericus.

A frame of reference concerning health implications, based on the interaction of numerous factors in the physical, social, and bullogical ensuronments, is provided in this prototype curriculum for grades 10-12. Descripment of sound techniques in problem solving is encouraged; resulting from the need to understand the nature and cumplestites of multible effect and multiple. resulting from the need to understand the nature and complesities of multiple effect and multiple causation. Specific connections content studies (1) definitions of epidemiology and ecology, (2) epidemiological method. (3) factors which influence the occurrence, distribution, declopment, control, and prevention of disease, disability, defect, and death, and (4) modern public health problems with ecological implications. Appended material includes bibliographies of mul umedia resources and a health behavior mudel. This publication is one in a series of health eurthis publication is one in a series of health euriculum materials devoted to environmental and community health (Strand IV). Four other strands deal with physical and mental health sociological health problems, and education for survival. The format consists of fiver column intended to provide teachers with (11 a base fundamental pages 12) material and final first colling. (2) material and first pages 13 materials and first pages 13 materials and first pages 14 materials and first pa tent outline. (2) major understandings and funda mental cuncerts. (3) teaching aids and learning activities, and (4) information about resource materials, sources, and personnel Because of the comprehensive nature of the total corrieutum. teachers are advised to become familiar with all strands presently in print Related documents in Strand IV are ED 037, 738-9, ED 049, 477-8, and SE 016, 280-6. (BL.)

SE 016 607 ED 081 601 Student Acsian for the Valley Environment (SAVE).

Phoenia Union High School District. Aria. Spons Agency—Arirona State Dept of Educa-tion. Phoenix, Bureau of Elementary and Secondary Education (DHEW/GE), Washington, D.C.

Report No-Ptoj-12-69-0015 Pub Date [73] Note-159p. EDRS Price MP-\$0.65 HC-\$6.58 Descriptors—City Planning. *Curriculum Guides
Environmental Education. Instructiona Instruenonal Miserials, Interdisciplinary Approach, Learning Activities, "Secondary Grades, "Simutation, Unit Plan, "Urban Studies

Identifiers—Elementary Secondary Education Act
Title III, ESEA Title III

A multi-disciplinary approach to environmental
studies for high school students, combining the areas of earth science, social science. and health education, is developed in this goide. Student Acprimarity a simulation program concerned with a serious problem of today the survival of life in the cities. It encourages student awareness, role playing, and problem-solving by having students propose and decide on atternate ways of structuring a new city, with their final plan compared to that of the actual city of Phoenis. Arizona The nine-lesson approach outlines for each lesson its aim, procedure, materials needed, time altotment. supplementary materials, and future assignments Lessons concentrate on a study of the urban en-vironment through "Conflict." a simulation game-ette features, city design, the concept of change, population, land use, and the development of a model city. Numerous enrichment activities are suggested and elaborated upon, greatly enhancing the unit and promoting its usefulness in an inter-disciplinary instituctional program. These cover, a wide variety of environmental factor and con-siderations. A data bank of background informs, tion about Phoene is also included This work was prepared under an ESEA Title III contract for Project Outreach (81)

ED 086 473

SE 016 098

McCabe, Robert H. Man and Environment for Secondary Schools: A Curriculum' in Environmental Studies for High

Nutional Association for Environmental Educa-

tion, Miamy, Fla
Spons Agency—Office of Education (DHEW),
Washington, D.C. Office of Environmental Education.

Pub Date Nov 72 Note-96p. Developed by a Workshop in En-vironmental Studies for Secondary Schools (Las Vegas, Nevada, November 13 through 17:

1972.1
EDRS Price MF-\$0.65 HC-\$3.29
Descriptors—Air Pollution Control, "Curriculum, "Curriculum Guides, "Environmental Education, "Instructional Materials, interdisciplinary Approach, Land Use, pollution, Secondary School Science, Technology, Urbanization, Material Research

School Science. Techni Water Pollution Control

water rollulon Control.

This curriculum guido contains 20 modules for an inleggeted environmental study in the secondary schools. Each module, two to four pages in length, anchides an overview, a list of ooncepts, and a list of student objectives. In addition, an appendix has suggestions for unitiating and implementing the program in the regular school cur-riculum. References and possible resources are given. (LS)

ED 086 S07

SE 016 982

Cooper Martiyn
The Elective Program in English, Course Title: Writers and the Environments.

Milwaukee Public Schools, Wis. Div. of Curricu-lum and Instruction. Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE). Washing.

ton, D.C **Pub Date 73** Note_32p.

EDRS Price MF-\$0.65 HC-\$3.29

Descriptors...*Curriculum... English Education. *Environmental Education, Guides, *Instruc-tional Materials, Inferdisciplinary Approach. Language, Arts, Learning Activities, Objectives, Secondary Grades Identifiers—Elementary Secondary Education Act

Identifiers—Elementary Secondary Education Act Title III. ESEA Title III.

This document is a galaction a half, year elective course offering secondary students the opportunity to caamine writers' insights on environments in a variety of literary types. In addition, language and composition experiences are developed unlizing the communications integral. Though representative literary selections are suggested for convenience, the teacher can select materials dependent upon the abilities of the students. The suggested activities are applicable to Pany different literary forms. This work was repared under an ESEA Title III contract. (JP)

ED 098 096 SO 007 866 ED 098/096 SO 007 866
Resource Recovery Overview (Teacher's Guide): Resource Recovery and You !Student Book!. Resource Recovery Education Program.

Nauonal Association of Secondary School Principals, Washington, D.C.: National Center for Resource Recovery, Inc., Washington, D.C.

Note = 16p.: R clated documents are SO 007 867. 868.cand/870

Available from National Association of Secondary School Principals, 1904 Association Drive.

Reston, Virginia 22091 (\$12.00 for kit, 20 percent discount on orders of five or more)

EDRS Price MF.\$0.75 HC Not Available from

EDRS. PLUS POSTAGE

EDRS. PLUS POSTAGE

Descriptors—Career Education. *Conservation
(Environment). *Ecology, Energy. *Environmental Education. Futures (of Society). Interdisciplinary Approach. *Natural Resources.

Program Descriptions. Recycling. Resource
Materials. Secondary Education. Teaching
Methods. *Waste Disposal
The Resource Recovery Education Program

eontains a variety of ideas, approaches, and learning aids for teaching about solid waste disposal at the secondary level. The program kit consists of a teacher's guide which provides an overview, separate teacher's guides for social studies, science, and industrial arts, a student booklet of readings, and a wall chart. Each of the components can be used independently of the other. The program is intended to introduce students to the problem of solid waste disposal and to involve them in doing something about it Teaching strategies involve the student in community studies, research, and classroom discussion. The teacher's guide and, the student book are available in this document. For other components of the program see the related decuments listed in the descriptive note. The teacher's guide discusses the need for teaching about solid waste disposal and the approach to content used in the program. It also describes the sis com-ponents of the program, the unit topics, and specific objectives and presents information on environmental careers and industrial resources. The student booklet contains a fictional story followed by a section on basic environmental princi-ples, a list of organizations that make available free and low-cost materials, and a glossary of terms, (Author/RM)

ED 099 186 SE 017 048

Tanner: R. Thomas Man and Nature-A Liferature Course. Project Reports, Volume 1. The Rachel-Carson Project. Corvallis School District 509J. Oreg.

Spons Agency-Office of Education (DHEW). Washington, D.G. Office of Environmental Education

Bureau No-BR-1-0839

Pub Date Sep 72 Grant-OEG-0-71-4623

Note-104p., Related documents are SE .017 047.054

EDRS Price MF-\$0.75 HC-\$5.40 PLUS POSTAGE

Descriptors-Conservation Education, *Curricu-Guides. Enveronmental Education. Inlum structional blatenals. "Interdisciplinary Approach, Learning Activities. "Literature proach. Learning Activities. *Literature Guides. Natural Resources. *Secondary Education: Teaching Guides

Idenufiers - Rachel Carson Project

This document is the first of seven volumes included in the Rachel Carson Project. The project attempts to introduce environmental education lessons and units into existing courses of study within a high school rather than to implement environmental education through the introduction of new courses. This volume (ocuses on English literature by emphasizing the environment through, Edward Abbey's DESERT SOUTAIRE. The unit concludes with examples of student reactions to the thoughts presented that specifically related to environmental ethics. The volume includes an introduction to the teacher; the DESERT SOLITAIRE unit, related poetry, essays, stories, contemporary muste, and films, suggested appropriate field trips, an annotated bibliography of books about wildlife, and a summation by the teacher who tried the course (MLB)

ED 099 189 95 SE 017 051

Tanner, R. Thomas

Environmental Studies In Several Selence Courses.
Project Reports, Volume 4, The Rachel Carson

Corvallis School District 5091, Oreg. Spons Agency—Office of Education (DHEW). Washington, D.C. Office of Environmental

Education. Bureau No—BR-1-0839 Pub Date Sep 72 Grant—OEG-0-71-4623

Note-84p.: Related documents are SE 017 047-054

EDRS MF-\$0.75 HC-\$4.20 PLUS Price POSTAGE

POSTAGE
Descriptors—Conservation Education., Curriculum Guides. Ecology. "Environmental Education, "Instructional Materials." Interdisciplinary Approach. Learning Activities. Natural Approach. Learning Activities. Natural Resources. "Natural Sciences. "Program Content. Secondary, School Science, Teaching

Idenuficis--*Rachel Carson Project

This document is the fourth of seven accom-panying volumes included in the Rachel Carson Project. The project attempts to introduce environmental education lessons and units into esisting courses of study within a high school, eurnoulum rather than to implement environmental education through the introduction of new courses. This volume reports the environmental edu. cation activities implemented in the following four special science courses human ecology, seience and society, marine biology, and natural history of Oregon, Course descriptions and objectives, possible topics for research, suggested lecture topics, field trips, annotated film lists, esamples of student projects, tests, examples of stu-dent handouts, and bibliographies are among the instructional materials included in the report.

ED 099 190 SE 017 052

Tanner, R. Thomas Case Studies of Conservation "Battles." Project Reports, Volume 5, The Rachel Carson Project.

Corvallis School District 5091, Oreg Spons Agency—Office of Education (DHEW). Washington, D.C. Office of Environmental

Education.
Bureau No-BR-1-0839
Pub Date Sep 72

Grant-OEG-0-71-4623

Note-106p: Related documents are SE 017 047-054

EDRS Price MF-S0.75 HC-S5.40 PLUS POSTAGE

Descriptors-Attitudes. Behavior. *Case Studies (Education). *Conservation Education. Curriculum Guides. *Environmental Education. Instructional Materials., *Interdisciplinary Approach. Learning Activities. Natural Resources. Program Content. *Secondary Teaching Guides. Values Identifiers...*Rachel Carson Project *Secondary Education.

This document is the lifth of seven accompanying volumes included in the Rachel Carson Project. The project attempts to introduce environmental lessons and units into existing courses of study within a high school curriculum rather than to implement environmental education through the introduction of new courses. This volume consists of two Case studies of conservation organizations that were developed in an effort to help students gam understanding of ways the prdinary entizen can exercise his rights other than in the voting booth Among the concepts covered during this developmental process were ecologic cal concepts relating to ways mun can after an entire ecosystem, political concepts relating to understanding our political system and the deciston-making Processes, social-eultural cuncepts relating to ways our decisions reflect our values. and communication concepts demonstrating such tubjective matters as "benefits" and "costs" Sug-gested questions, for discussion and activities are included at the end of each cusy study. (MLB)

ED 099 191 SE 017 053 95

Tenner, R. Thomas Environmental Studies in Nine Courses at Crescent Valley High. Project Reports, Volume

6, The Rachel Carson Project. Corvallis School District 5041, Oreg

Spons Agency...Office of Education (DHEW).
Washington, D.C. Office of Environmental

Education Bureau No-BR.1-0x39

Pub Date Sep 72 Grant—OEG-0-71-4623 Note 75p, Related documents are SE 017 047-

054 DRS Price - MF-\$0.75 HC-\$4.20 PLUS EDRS POSTAGE

Descriptors—Conservation Education, Curriculum Guides, Ecology, "Environmental Education, "Instructional Materials, "Interdisciplinary Approach. Learning Actuation Natural Resources. *Program Content. *Secondary Education. Teaching Guides. Units of Study (Subject Fields)

Identifiers- Rachel Carson Projects

This document is the sisth of seven accompanying volumes included in the Rachel Carson Project. The project attempts to introduce en-vironmental education lessons and units into esisting courses of study within a high school curriculum rather than to implement environmental education through the introduction of new cour-ses. This volume includes esamples of the units and activities developed and impremented in the following high school courses psychology, typing, architecture: modern foreign languages including French. Spanish, and German, algebra, world stu-dies, and home economies. The framework of each course is described, student goals are stated. the organization of the ensironmental unit is presented, and examples of student work are included Suggested projects materials needed and suggested methodologies are among the contents of each course report (MLB)

ED 099 192 Tannes, R Thomas

Environmental Studies: Five Miscellaneous Reports. Project Reports; Volume 7, The Rachel Carson Project.

Corvallis School District 5091, Oreg.

Spons Agency-Office of Education (DHEW).
Washington, D.C. Office of Environmental Education. Bureau No-BR-1-0839

Pub Date Sep 72 Grant—OEG-0-71-4623

Note-52p.: Related documents are SE 017 0477 Price MF-\$0.75 HC-\$3.15 PUS EDRS

POSTAGE Descriptors—Conservation Education, Curriculum Guides, Ecology... Environmental Education, "Instructional Materials. "Interdisciplinary Approach. Learning Activities, Natural Poliution. Program Content.

Approach. Cearming Activities. Natural
Resources. Pollution. Program Content.
"Secondary Education, Teaching Guides. Units
of Study (Subject Fields)
Identifiers—"Rachel Carson Project
This document is the last of seven volumes included in the Rachel Carson Project The project attempts to introduce environmental education essors and units into extreminental education lessors and units into extremine rather than to implement assuronmental education through the introduction of new courses, included in this volume is a report demonstrating methods by which environmental education can be implemented in a course on futuristies, an illustration of cooperation between a tegment of the community (specifically a conservation organization) and a high school biology class which provides environmental learning especiences for both groups. an extracurricular project involving the study of a nearby creek as a potential spawning site for anadramous fishes, a proposal to utilize industrial waste material for projects in a high school industrial arts class, and a paper developed specifically for the project by an agricultural economist coneerning the economics of environmental quality. Descriptions of the projects, lists of available resource materials, and suggested study outlines are among the contents of the various reports. (MLB)

151

ED 099-199

SE 017 349

McDermott, John J. Ed A Teather's Guide for the Environmental Impact of Electrical Power Generation: Nuclear and Fossil, A Minicourse for Secondary Schools and Adult Education, Teacher's Guide.

Penns) Ivania State Dept of Education. Har-risburg Buteau of Curriculum Services

Spons-Agency-Atomic Energy Commission. Oak Ridge, Tenn Div of Nuclear Education and Training

Report No-WASH-1262

Pub Date 73

Note-167p: For the text, see SE 017 350 EDRS Price MF-\$0.75 HC-\$7.80 POSTAGE

Descriptors-Adult Education, Conservation Education. Economics, *Energy. *Environmental Education. Environmental Influences. Fuels. Instructional Materials, Interdisciplinary Ap-"Instructional Materials, Increase principle proach, Pollution, Science Education, Secondary Grades, "Teaching Guides Control of the Power Control of the Po

Identificit - Atomic Energy. Generation, Nuclear Energy

According to this guide, the major goal of this minicourse, developed for sceondary and adult education, is to have the student gather pertinent education, is to have the student gather pertinent information relative to the generation of electrical energy and to draw his own curclusions concerning the need for this energy supply if in his mind such a need earlis, he should make a judgment as to the methods by which the energy should be produced. The job of the teacher is to "tell which it is and then to encourage the students to the students are the beautiful to the students. tent to make his own judgments based on the evaluation of this information. Each chapter of this teacher's guide corresponds to a chapter in the text. There are five sections in each chapter dealing with behavioral objectives, suggested activities for that chapter, audiovisual aids-references, and selected readings to provide background material for the teacher. At the end of the teacher's guide is a decision making modelno help the reader analy to the information he has processed. There are three appendixes, the first concerning laboratory safety rules for working with radioactive substances, the second containing names and addresses of environmental action organizations, and the third an achievement test.

ED 099 200

SE 017 350

McDermott, John J., Ed.
The Enviornmental Impact of Electrical Power. Generation: Nuclear and Fossil. A Minicourse for Secondary Schools and Adult Education.

Pennsylvania State Dept of Education. Har-risburg Bureau of Curnculum Services.

Spons Agency—Atomic Energy Commission. Oak Ridge. Tenn. Div. of Nuclear Education and Training.

Pub Dare 73

Note-97p.; For the teacher's guide, see SE 017 349

Price MF.\$0.75 HC-\$4:20 PLUS POSTAGE

Descriptors—Adult Education, Conservation Education, Economics, "Energy, "Environmental Education, Environmental Influences, Fuels, *Instructional Materials, Interdisciplinary Ap-proach, *Natural Resources, Poliution, Science Education, *Secondary Grades

Identifiers—Atomie Energy Electric Power Generation, Nuclear Energy This course, developed for use in secondary and adult education, is an effor to describe the generation of electrical power in an era when the fequitement fur additional sources of power is growing at an ever-increasing rate and environgrowing as an geri-increasing rate and environ-mental protection is a major concern. This course was written and compiled by an independent committee drawn from educators, engineers, health physicists, members of industry and con-servation groups, and environmental scientists. among the topics discussed are the increasing heed for electrical power and methods for meet-ing this need, nuclear power and fossil fueled plants, the biological effects of nuclear and fossil fueled plants, waste in the production of electric power, plant vite considerations, energy conservation, and the environmental effects of electrical

sary of terms, a bioliography, a decision-making model and a binel outline of the procedures which must be followed by a utility in order to construct and operate a nuclear power plant.

SÉ Q18 447 [Air Pollution Unit, Edmonds School District.] Edmonds School District 15, Lynnwood, Wash Pub Date [74]

Note=96p EDRS Price MF.\$0.75 HC.\$4.20 POSTAGE

Descriptors- *Air Pollution Control. Chemistry. Conservation Education, Ecology, Educational Programs, *Environmental Education, *Instructional Materials, Interdisciplinary Approach, Learning Activities, Natural Resources, Out-door Education, Pollution, Science Education.

"Secondary Grades, Social Studies
This interdisciplinary program, developed for secondary students, contains 16 an pollution actryities that can either be used directly in, or as a supplement to, curriculum in Science. Photography, Mathematics. English, Social Studies, Industnal Arts and Home Economics. The topics to be investigated include pollutants from automobiles, exhaust collection, lead in lichens, sources of air pollution, the effect of air pollution on synthetics, solid parsicles, lead, sulfur dioxide and earbon monoxide analysis. Each learning activity includes subject area and grade level for which in can be used, level 11 objectives, time schedule for prelab and performance of the activity, background information for the teacher and a luting of materials needed. Where applicable, a listing of audio-visual aids included and an air pollution bibliography is attached (BT)

ED 099 235 SE 018 448 [Land Lise Linis, Edmonds School District.] Edmonds School District 15, Lynnwood, Wash. Puh Date [74] Note - 125p.

DRS Price MF-50:75 HC-55.40 PLUS POSTAGE

Descriptors—Biological Sciences, Conservation Education, Ecology, Educational Programs. Education, ecology, Educational Programs,

*Environmental Education, Games, "Instructional "Materials, Interdisciplinary Approach,

*Land Use, "Ecarning Activities, "Satural
Resources, Outdoor Education, Population,
Education, Science Education, "Secondary Grades, Simulation

Grades, simulation identifiers—Land Use Planning

This interdisciplinary program, developed for secondary students, contains 18 land use activities that can either be used directly in, or as a supplement to, curriculum in Science, Biology, Horniculture, Mathematics, Social Studies, En-glish, Industrial Arts and Physical Education, The topics to be investigated include, land use simulation games, land-use planning and decision making, small area plots, land use alternatives, microfilmates, flood management and local poputation control. Each learning activity includes: subject area and grade level for which, it can be used, level VI objectives, time schedule for prelab and performance of the activity, background information for the feacher and a listing of maten-als needed. A land use bibliography and a listing of audio-visual materials are included. (BT)

i:D 099 240 88 SE-018 489 Project Q. L. E. S. T. (Quality, Urban Environ-mental Studies Training), An Environmental Studies Curriculum for High School,

Brozskin Public Schools, Mass.

Spont Agency-Boresu of Elementary and
Secondary Education (DHEW/OE), Washing-100. D.C.

Pub Date 74 Note-180p.; Page 86 is misting from this document

Price 15.50.75 HC.59.00 PLUS POSTAGE:

DesenPtors-*Conservation Education, *Curricu. furn Guides, *Environmental Education, Inlum Guides; "Environmental audicianom instituctional Materials, Interdisciplinary Approach, Learning, Activities, Mathematics, Nardral Resourcet, Science Education, Sciences, "Secondary Education, Social Sciences, *Secondary Edu Sciences, *Urban Environment

Identifiers—Elementary Secondary Education Act
Title III, ESEA Title III

This/interdisciplinary environmental education eurriculum guide provides a senes of environ. mental encounters for high school students. The purpose of the encounters is to develop an aware. ness and understanding of community environs mental problems. The guide utilizes math, science and social studies in the study of urban environmental problems. Although the guide focuses on a specific community, the urban problems that are explored are common to most communities. The guide is divided into six cycles, each contain. ing maths science and social studies activities, Each cycle is designed to be covered in seven days, the first six devoted to teaching and the seventh for testing. The cycles contain objectives and lessons which utilite math, science, and soeial studies, some cycles contain tests and biblio-graphical materials. The lessons reinforce the lesson objectives, and include completion type. equipment lists, location, and procedure. The lessons within the guide make use of such activities as mapping and measuring, discussion, and sample analysis. (TK)

88 ED 100 659 SE 018 350

Agriculture, Environmental Education Guide, Project I-C.E. Green Bay, Wis.

Spons Agency—Bureau of Elementary and Secondary Education IDHEW/OE), Washington, D.C.; Wisconsin State Dept. of Education. Madison.

Pub Date [74]

Note-107p. Price, MF.50.75 HC-55.40 PLUS-POSTAGE

escriptors-*Agricultural Education, Conservation Education. *Environmental Education. Instructional Materials, Interdisciplinary proach, Learning Activities, Natural Resources, Outdoor Education, Science Education, *Secondary Education. *Teaching Guides.

*Vocational Education

Identifiers—Elementary Secondary Education Act
Title III, ESEA Title III *Project | C-E

This agriculture guide, for use at the secondary level, soone of a series of guides. K-12, which were directoped by leachers to help introduce environmental education into the total curriculum. recommental problems are present in every community where agriculture education is offered, and therefore many agriculture teachers have included some engineerial concepts in their curriculum. This supplementary guide is their curriculum. Into supplementary guide is designed to serve as a basis for inclusion of major environmental concepts within the agriculture curriculum. The guide contains a series of episodes which are built around 12 major environmental concepts that form a framework for vironmental concepts that form a framework for each grade of subject area, as well as for the entire K-12 program. Although the same concepts are used throughout the K-12 program, emphasis is placed on different aspects of each concept at different grade levels or in different subject areas. The agriculture guide focuses on aspects such as erop rotation, pesticides, and woodlot managements, The 12 concepts are covered in one of the entirodes contained in this mide. Either week episodes contained in the guide Furthet, each episode offers subject area integration, subject area activities, interdisciplinary activities, cognitive and affective behavioral objectives, and sug-gested references and resource materials useful to teachers and students. (Author/TK)

ED 100 664 SE 018 355 General Math 9-12, Environmental Education

Project I-C.E. Green Bay, Wis.

Spons Agency—Bureau of Elementary and Secondary Education IDHEW/OE), Washington, D.C.: Wisconsin State Dept. of Education, Madison

Pub Date [74] Note-87p.

EDRS Price 3/F-\$0.75 HC-\$4.20 PLUS POSTAGE

Descriptors - "Conservation Education. "Environmental Education, Instructional Materials, interdisciplinary Approach. Learning Acrivities. Mathematical Applications, Maihematics Edu-cation, Natural Resources, Outdoor Education, Science Education, Secondary Education, "Secondary School Mathematics, 'Teaching

Identifiers-Elementary Sceondary Education Act

Title III. ESEA Tule III. Project I C E

This general mathematics gutde, for use 10 trides 9-12, is one of a seriex of guides. K-12, hat were developed by teachers to help introduce environmental education imo the total curniculum. Since the nature of mathematics is abstract, students do not learn mathematics from ecology, nor ecology from mathematics. But, by observation and manipulation of environmental data, the student may industriely discover a Prinesple in mathematics which can be teached deductively The purpose of this booklet is to make an attempt to bridge mathematics and ecology The guide is a supplementary handbook ecologically-onented matnematics exercises designed to be self-contained and complete with answers. The exetusex are built around 12 major environmental concepts that form a framework for each grade or subject area, as well as for the enure K.12 program Each exercise is indexed by mathematical area and major mathematical con-cept and cross indexed by environmental concepts Each lesson deals with a mathematical coneept and its applications to an environmental problem Further, each lesson offers subject area integration, subject area activities, interdisciplina-ry activities, cognitive and affective behavioral objectives, and suggested references and resource materials. (Author/TK)

ED 100.666 88 SE 018 357 Language Arts 9-12, Environmental Education Guide

Project I.C.E. Green Bay, Wis

Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE). Washington, D.C., Wisconsin State Dept of Public Instruction, Madison
Pub Date [74]

Note-80p. EDRS Price MF-\$0.75 HC-\$4.20 PLUS

POSTAGE Descriptors-*Conservation Education, *Environmental Education, Instructional Materials, In-terdiserplinary Approach. *Language Arts, Learning Activities, Natural Resources, Out-

door Education. Science Education. *Secondary Feducation. Teaching Guides Identifiers—Elementary Secondary Education Act Title III. ESEA Title III. *Project I C E

This language arts guide, for use in grades 9-12, is one of a series of guides, K-12, that were developed by teachers to help introduce environmental education into the total curriculum. The guides are supplementary in design, containing a senes of episodes (minilessons) that relate vanous English skills (reading, writing, listening, and speaking) to environmental concepts. The episodes are built around 12 major environmental concepts that form a framework for each grade or subject area, as well as for the entire K-12 program. Although the same concepts are used program. Although the same concepts are used throughout the K-12 program, emphasis is placed on different aspects of each concept at different grade levels or in different subject areas. This guide focuses on aspects such as debate, interviews, and analysis. The 12 concepts are covered in one of the episodes contained in the guide. Further, each episode offers subject area integration, subject area activities, interdisciplinary activities, cognitive and affective behavioral objects. tivines, cognitive and affective behavioral objectives, and suggests references and resource materials useful to teachers and students. (Author/TK)

* 88 ED:100 670 SE 018 361 Mathematics 9-12. Environmental Education Gulde.

Project I.C.E. Green Bay. Wis.

Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE), Washing-ton, D.C.: Wisconsin State Dept. of Education, Madison. Pub Date [74]

Note—78p. EDRS Price MF-\$0.75 HC-\$4.20 PLUS—POSTAGE

eriptors-Conservation Education. *Environmental Education, Instructional Materials, Interdisciplinary Approach, Learning Activities, *Mathematical Applications, Mathematics Education, Natural Resources, Outdoor Education, Science Education, Secondary Edu-cation, Secondary School Mathematics. eation, Second
Teaching Guides

Identifiers-Elementary Secondary Education Act

Title III. ESEA Title III. "Project I C E

This mathematics guide, for use in grades 9-12,
one of a senes of guides. K-12, that were developed by teachers to help introduce environ-mental education into the total curriculum. Since the nature of mathematics is abstract, students do not learn mathematics from ecology, not ecology from mathematics. But, by observation and manipulation of environmental data, the students man inductively discover a principle in mathe-matics which can be reached deductively. The purpose of this booklet is to make an attempt to bridge mathematics and ecology. The guide is a supplementary handbook of ecologically-oriented supplementary handbook of ecologically-oriented mathematics exercises, designed to be self-contained and complete with answers. The exercises are built around 12 major environmental concepts that form a framework for each grade or subject area, as well as for the entire K-12 program. The problems and exercises are designed to be integrated into algebra, geometry, advanced algebra, probability, statistics, trigonometry, and analysis. Each lesson deals with a mathematical concept and its applications to an environmental problem. Further, each lesson offers subject area integration, subject area activities, interdisciplinary activities, cognitive and affective behavioral objectives, and suggested refetences and resource materials. (Author/TK)

ED 100 672 88 SE 018 363 Music 10-12, Environmental Education Guide, Project I-C-E. Green Bay, Wis

Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE). Washington, D.C., Wisconsin State Dept of Education,

Note - 24p EDRS P Price MF-\$0.75 HC-\$1.50 PLUS POSTAGE

Descriptors—Conservation Education, *Environ-mental Education, Instructional Materials, Inmental Education, Instructional Materials, Interdisciplinary, Approach, Learning Activities, "Music Education, Natural Resources, Outdoor Education, "Science Education, "Secondary Education, "Teaching Guides Identifiers—Elementary Secondary Education Act Title III, ESEA Title III, "Project I C E This music education guide, for use in grades 10-12, is one of a series of guides, K-12, that were developed by teachers to help introduce enterminated education guides.

vironmental education into the total curriculum. The guides are supplementary in design, containing a series of episodes (minilessons) that reinforce environmental concepts and theories by developing ecology-related aesthetic values. The episodes are built around 12 major environmental concepts that form a framework for each grade. or subject area, as Mell as for the entire K-12 program. Although the same concepts are used. incougnout the k-12 program, emphasis is Placed on different aspects of each concept at different grade levels or in different subject areas. This guide focuses on aspects such as acoustics and concert programing. Most of the 12 concepts are covered in one of the episodes contained in the guide Furtner, each episode offers subject area integration. Subject area activities, interdisciplina n activities, cognitive and affective behavioral conceilies, and suggests references and resource materials useful to teachers and students. (Author/FK)

ED 100 688 88 SE 018 586. Aft 10-12, Environmental Education Guide.

Project 1-C-E, Green Bay, Wls.

Spons Agency-Bureau of Elementary and
Secondary Education (DHEW/OE), Washington, D.C.; Wisconsin State Dept. of Public Instruction. Madison. Pub Date [74]

Note __75p. MF-\$0.75 HC-\$4.20 PLUS POSTAGE

Descriptors- Art Education. Conservation Edu-*Environmental Education. cation, 'Environmental Education, Instruc-tional Materials, Interdisciplinary Approach, Learning Activities, Natural-Resources, Out-door Education, Science Education, 'Seconda-ry Education, 'Teading Guides

Identifiers—Elementary Secondary Education Act Title III, ESEA Title III, Instruction Curriculum Environment, Project I C E This art education guide, for use in grades 10-

12, is one of a series of guides. K-12, that were developed by teachers to help introduce environ-mental education into the total curriculum. The guides are supplementary in design, containing a series of episodes (minitessoris) that are designed to wake students to sights of beauty and harmony in their environment. The episodes are built around 12 major environmental concepts that around 12 major environmental concepts that form a framework for each grade or subject area, as well as for the entire K-12 program. Atthough the same concepts are used throughout the K-12 program, emphasis is placed on different aspects of each concept at different grade levels or in different subject areas. This guide focuses on aspects such as graphics, photography, and weavier. Mark of the 12 percent and applicable of the 12 percent areas. ing. Most of the 12 concepts are covered in one of the episodes contained in the guide, Further. each spisode offers subject area integration, subjeet area activities, interdisciplinary activities. cognitive and affective behavioral objectives, and suggests references and resource materials useful to teachers and students (Author/TK)

ED 100 692 ደደ SÊ018 590 Industrial Arts 9-12, Environmental Education Guide.

Project I-C-E, Green Bay, Wis.

Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE), Washington, D.C.; Wisconsin State Dept. of Public Instruction, Madison.

Pub Date [74]

Note = 86p. EDRS Price MF-\$0.75 HC-\$4.20 POSTAGE

Descriptors—*Conservation Education. *Environ-mental Education. *Industrial Arts, Instrucmental Education, Industrial Arts, Instruc-tional Materials, Interdisciplinary Approach, Learning Activities, Natural Resources, Outdoor Education. Science Education, Secondary Education. Teaching Guides
Identifiers—Elementary Secondary Education Act
Title III. ESEA Title III. Instruction Curriculum
Environment. Project I C E

Title III, ESEA Title III, Instruction Curriculum Environment. *Project I C E

This industnal arts guide, for use in grades 9-12, is one of a series of guides, K-12, that were developed by teachers to help introduce environmental education into the total curriculum. The guides are supplementary in design, containing a series of episodes (minilessons) that focus on the conomical use of materials and resources and the problems of economic gain versus environmental loss. The episodes are built around 12 major environmental concepts that form a framework for each grade or subject area, as well as for the entire K-12 program. Although the same concepts are used throughout the K-12 program, emphasis is placed on different aspects of each concept at different grade levels or in different subject areas. This guide focuses on aspects such as plastics, power mechanics, and graphic ans, The 12 concepts are covered in one of the episodes contained in the guide Further. of the episodes contained in the guide Further, each episode offers subject area integration, subject area activities, interdisciplinary activities, cognitive and affective behavioral objectives, and suggested references and resource materials useful to teachers and students. (Author/TK)

SE 016 987 ED 103 201 Marin, F. H. And Othert
Man' and Environment. A Multidisciplinary Teachers Gulde.

rkantal State Dept. of Education, Little Rock. Pub Date 73

Note-47p. EDRS Price MF-\$0.76 HC-\$1.95 POSTAGE

Descriptors...Conservation Education. Ecology. Environment. Environmental Education. Instructional Matenais, "Interdisciplinary Approach, Learning Activities, Natural Resources, Pollution. Seience Education. Grades. Teaching Guidex Identifiers— Man and Environment *Secondary

This multidisciplinary guide, developed for teachers in the secondary schools, stresses the use of Man and Environment in Atkansas. The guide illustrates how teachers in social studies, the aris. English, science, physical education and health. home economies, and mathematics can imple ment these materials into their Present elassroom utuations. A brief summary of each topic is in-cluded. Amon8-the programs summarized are Environmental Imperativet, Air Pollution, Water, Scenic Pollution-Solid Waste, Conservation of ital Resources, Energy, Population Dynamics, irbanization, Value Systems, Concepts of Change, and Individual Involvement. The hasic equeepts contained in the modules are identified. This material was developed to offer teachers the opportunity to obtain insight into the teaching objectives of the modules and panel discussions. A listing of free films is appended. (BT)

ED 106 095

SE 018 629

Fulam, William L., Ed. The Farkleberry Cookbook in Environmental Education. An Activity Guide for Creative Teachers.

Arkansas State Dept. of Education, Little Rock Environmental Education Office

Pub Date [74] Nate-61P

EDRS MF.\$0.76 HC-\$3.32 PLUS POSTAGE

Descriptors-*Conservation Education, *Environmental Education, "Instructional Materials, Inmental Education. *Instructional Materials, in-terdisciplinary Approach. Learning Activities, Natural Resources. Population Education. Problem Solving. Science Education. *Secon-dary Education. *Teaching Guides

Awareness, Identifiert-Environmental Waste

This mlerdisciplinary environmental education guide, developed by teachers, focuses un the creative teacher, presenting him/her an approach for involving all types of xtudents in junior and senior high schools in activities which would cause them to evaluate values and give them an opportunny to express their own thoughts. Theguide includes six topics problem solving, solid waste, energy, population, awareness and the Farkleberty Question Problem solving includes fand use, politics, and prescriptive thinking. Solid waste examines family garbage methods of solid waste disposal and includes the gurbage game. and supportive materials, role playing, data col-lection, and observation are used Energy considers such topics as energy conservation. gasoline consumption, economic costs, and utility, management Population focuses on crowding space, limited resources, population growth, and solutions, a population game is included. Awareness aims to help the student become emotionally involved with his environment, included are field trips, creative writing detricties, and discussion topics. The Farkleberry Question is a simulation game which involves an environmental heating on a project and its environmental interfect. (TK)

ED 107 480 Werr. Felicia E SE 018 604

The Devil's Atlithopper: A Resource for Developing Firld Studies, Resource Monograph No. 2.
Florida Univ. Gainesville. P. K. Yonge Lab. School Pub Date Nov 73

Pub Date Nov 73

Note—749. Related documents are ED 086 489.
ED 103 220. SE 018 605 and 606. Best Copy
Available, Occasional marginal legibility

Available from—P K. Yonge Laboratory School,
University of Florida, College of Education,
Gainesville, Florida 32611

EDRS Price MF-\$0.76 HC-\$3.32 PLUS

POSTAGE

Beseriptors- Environmental Education, Field Studies, Field Trips, Learning Activales, Natural Resources, Resource Guides, Science Education, Secondary Education.

Teaching Guides Identifiers—* Florida

This tesource monograph is one of a seriea designed at a teaching guide for field studies. Each guide centers around the exploration, observation, and interpretation of a field site in one of the four geological areas of Florida Incorporated into the guides are many of the subject mattes schemes of the Earth Science Curriculum Pro-gram (ESCP), and three major process schemes cience as inquiry, comprehension of scale, and prediction. These guides also give the teaches information on the planning and execution of the field trip, as well as educational objectives, learning activities, and teaching materials available. The primary site for field study in this guide is the Devil's Millhopper, a collapse sink near

Gainesville. Incorporated into the investigation of the area are activities in geology, history mathethe area are activities in geology, history mathematics, ary, language arts, and environmental studies. The major theme for all these is change also included in this field trip is a stream study of Hogtown Creek. This guide vontains directions for the activities, data sheets, and evaluation theets. With some modification, these activities are heart at the stream of the stream o can be used at primary or secondary grade levels (MA)

ED 116 914

SE 019 783

Environmental Education Teaching Resources: Projects for Environmental Problem-Solving. National Education Association. D.C. Teacher Rights Div. Washington.

Note-23p.: Printed on light brown background

with dark brown ink

Available from—NEA Publications, Order Department, The Academic Building, Saw Mill

Road, West Haven, Connecticut 06516 (Stock

Number 1364-6-00) EDRS Price h1F-\$0.76 Plus Postage, HC Not Available from EDRS.

Descriptors— Environmental Education, Instruc-uonal Materials. Learning Activities. uonal Materials. "Learning Activities.
"Problem Solving, Secondary Education, "Student Projects, "Teaching Guidea

This publication is a guide for the design of student projects in environmental education A few advantages of problem-focused projects are. easy incorporation into the ongoing curriculum: opportunity for joint studentificachet use of knowledge, information, and skills in action-oriented activities related to local emironmental concerns; identifying, weighing, and clarifying values; research and technical reporting skills. and development of divergent and convergent thinking skills. The student project provides a method for student involvement and inquire. based learning. The five instructional objectives presented are based on the above-mentioned advantages. Under each objective are teaching strategies, specific instructional procedures, and some sample questions to raise. The objectives, strategies, and procedures serve as the basis for process activities and outcomes that can be realized through all problem-solving projects. Three projects that can be utilized and adapted by secondary and college students in their study of communication on envisonmental issues are outlined. Two of the projects concern environmental impact: the third, environmental research. Each project is sub-divided into objectives, focus, suggested approaches, project design, and evalua-tion. Appendiced information pertaining to or-ganizations of environmental concern, expanded problems for study, and a bibliography of matesials is to be used in conjunction with the projects. (BP)

ED 121 S65

SE 019 332

Bennets, Dean B. Willink, Wesley H. Environmental Education Tracher'a Guide. Senior

High School. A Core Experience Study of the Maine Land Use Challenge.

Maine Environmental Education Project, Yar-mouth, Maine Univ., Portland Gorham, Center for Research and Advanced Study. Pub Date 74

Note = 148p.; For related documents, see \$E 019 111,115

Available from - Maine Environmental Education Project. Intermediate School, Yarmouth, Malne 04096 (free)

DRS Price MF-\$0.83 HC-\$7.35 Plus Postage
Descriptors—Decision Making, Environment,
"Environmental Education, Films, "Institutional Materials, "Land Use, Planning, "Secondary Grades, "Teaching Guides, Values Identifiers—"Maine

This Environmental Education Teacher's Guide designed for use with the Maine Land-Use is designed for use with the Maine Land-Use Challenge, a mini-course designed for use in the secondary schools. The mini-course inself grew out of a day-long land-use conference in 1971, sponsored by the Allagash lightingte, in the coastal town of Phippsburg, Maine. The conference was filmed and edited against the background of the Phippsburg peninsula, mio a 30-minute sound and color film, MAINELAND, which serves as the basis for this unit of study. The major goal of the basis for this unit of study. The major goal of this mini-course is to help students acquire an un-derstanding of the need for land-use planning and

to help them acquire the motivation and ability to participate in sound land-use decision making. The guide is divided into six parts: Land-Use Values Clarification. The History of Land-Use. A Community Land-Use Case Study (slide presentation). Simulation of a Community Laud-Use Issue. Follow-up Considerations. and Selected Bibliography. The Appendices include pre- and post-tests, MAINELAND film outline, a community study form. nity attitude survey, and charts. (BT)

ED 133 207

್ವSE 021 869

Stracefer, Larry, Ed. A Citizen's Gulde to Information on Land Use Decision Making.

Area Cooperative Educational Services. New Haven. Environmental Conn Education Center

Spons Agency—Office of Education (DHEW).
Washington, D.C. Office of Environmental
Education.

Pub Date [75]

Ante-42p : For related documents, see SE 021 868-882. Not available in hard copy due to marginal legibility of original document

Available from—E-P Education Services, c/o
ACES, 800/ Dixwell Avenue, New Haven, CT
D6511 (no price quoted)
EDRS Price MF-80,83 Plus Postage, HC Not
Available from EDRS.

Description EDN:
Description—"Community Planning. "Environment, Environmental Education, Higher Education, Tinstructional Materials. "Land Use, Resource Materials, Secondary Education, "Unit of Study (Subject Fields)

These materials are designed to provide a compact listing of sources of information as well as a collection of tested formats for collecting resource information for a town or city it pro-vides supplementary materials for the Land Use Decision Making Kit Among materials included are listings of federal agencies involved in water and land use programs. a town level checklist/questionnaire designed to assemble data needed for evaluation of land use plans, a census data form, and a community survey form to determine the desires and the attitudes of the community The program is designed to be used with secondary school students, college students.

ED 133 208

and inferested eitstens. (RH)

SE 021 870

Haakonsin, Harry O , Ed Scheifer, Larry , Ed. Introduction to Land Use Decision Staking Kit and Economics of Land Use, [2 Units].

Area Cooperative Educational Services, New Haven, Conn. Environmental Education

Education Center

Spens Agency—Office of Education (DHEW).
Washington, D.C. Office of Environmental Education. Pub Date 75

Pub Date 75
Note—73p... For related documents, see SE 021
868-882. Not available in hard copy due to
marginal legibility of original documents
Available from—E.P. Education Services, c o
ACES, 800 Dixwelf Avenue, New Haven, CT
06511 (\$22 50 - price includes tapo and slides)
EDRS Price MF-50-83 Plus Possage, HC Not Available from EDRS.

munity Planing.

Environmental Education.
on. *Instructional Materials.

Education.
*Units of Descriptors-*Community Planning, *Economies, *Environment. Higher Education. and Use. Secondary Education. Study (Subject Fields)

Included in this set of materials are two units: (1) Introduction to Land Lise Decision Making Kit, and (2) Economies of Land Use Each unit includes tiudent guide sheets, reference material. and tape script. A set of 35mm slides and audiotapes are utually used with the materials. The introductory unit provides an overview of land use and suggested use of the materials. The unit on Economics of Land Use emphasizes economic as well as environmental and togal factors in land use decitions included are materials for determining property values, cost-benefit determining property values, cost-benefit analyses, and considering the use of these various techniques. (RH)

ED 133 209

SE 021 871

Haakonsen, Harry O., Ed Maps-Map Reading and Aerial Photography. [2 Callsi.



Area "Cooperative Educational Services, New Haven, Conn Environmental Education

pons Agency-Office of Education (DHEW), Washington, D.C. Office of Environmental Education.

Pub Date 75 Note-56p.: For related documents, see SE 021 868-882. Not available in hard copy due to

808-882. Not available in hard copy due to marginal legibility of original documents. Available from—E-P Education Services, e/o ACES, 800 Dixwell Avenue, New Haven, CT 06511 (\$22.50 - price includes tape and slides) EDRS Price MF-\$0.83 Plus Postage, HC Not Available from EDRS.
Detemptors—*Community Planning, Environ-

ment. Higher Education. Instructional Maten-als, "Land Use. Maps. Photography. Secon-dary Education. Units of Study (Subject Fields)

Included in this set of materials are two units (1) Maps and Map Reading and (2) Aenal Photography Each unit includes student guide theets, reference material, and tape script. A set of 35mm slides and audiotapes are usually used with the materials. The unit on Maps and Map Reading is designed to develop map reading skills and the use of these skills in land use decision making The unit on Aerial Photography provides an introduction to the use of aerial photographs in the planning process and assistance in the development of fundamental skills of photo interpretation. (RH)

ED 133 210 Haakonsen, Harry O. Ed. Schoeler, Larry, Ed. Geosystems and Land Use Decision Making and Open Space and Land Use Decision Making. [2

Area Cooperative Educational Services, New Haven, Conn. Environmental Education Education

Spons Agency—Office of Education (DHEW).
Washington, D.C. Office of Environmental

ub Date 75 Note-116p. For related documents, see SE 021 868-882. Not available in hard copy due to

agglessez, Not available in large copy due to marginal legibility of original documents.

Available from—E-P Education Services, c/o
ACES, 800 Dixwell Avenue, New Haven, CT
06511 (\$30,00 - price includes tape and slides).

EDRS Price MF.50.83 Plos Postage, HC Not adultable from EDRS. Available from EDRS.

Descriptors- Community Planning, Science, *Environment, Environmental Eddeation. Higher Education. *Instructional Materials. *Land Use. Secondary Education. *Units of Study (Subject Fields)

Included in this set of materials are two units: (1) Geosystems and (2) Open Space. Each unit includes student guide sheets, reference material, and tape script. A set of 35mm slides and audiotapes are usually used with the materials. The unit on Geosystems introduces the student to geosystems and the role of geosystems in the land use decision making plocess. The materials emphasize Connecticut situations, but can be adapted to other localities. The unit on Open Spaces provides several perspectives on the nature, function, and importance of open space areas, reviews agencies and laws that focus on man's need for open space, and includes a plan. for action. (RH)

ED 133 21F

Pretimah. Rob
Synthesis: Part I, Buildability.
Area Cooperative Educational Services, New Conf. Environmental

Spons Agency. Office of Education (DHEW), Washington, D.C. Office of Environmental Education.

Pub Date 75 Note -649 : For related documents, see SE 021 868-882: Not available in hard copy due to

marginal legibility of original document

Available from—E-P Education Services, e/o

AGES, 800 Dixwell Avenue, New Haven, CT

06511 (528 00 - price includes tape)

EDRS Price MF-50.83 Plus Portage, HC Not,

Available.from EDRS. Descriptors-*Community Planning. Earth Science. Economies. *Environment, Higher Education. *Instructional Materials, *Land Use, Secondary Education, Units of Study (Subject Fields)

This unit is designed to show the student how to pull together information on natural and man-managed systems to develop a coherem and environmentally sound plan of action. The material includes student guide sheets, reference material. and a tape script. Audiotapes are usually used with the materials. The unit assumes the student has studied a number of previous units. (RH)

ED 133 212 SE 021.874

Pressman, Rob
Synthesis: Part II. Land Use Attractiveness Area Cooperative Educational Services, New Conn. Environmental Education

Center. Spons Agency-Office of Education (DHEW).
Washington, D.C. Office of Environmental Education. Pub Date 75

Pub Date 73

Note—83p: For related documents, see SE 021
868-882: Not available in hard copy due to marginal legibility of original document

Available from—E.P. Education Services, elb
ACES, 500 Dixwell Avenue, New Haven, CT
06511 (\$25.00 - price includes tape)
EDRS Price Mf-50.83 Plus Postage, RC Ret
Applicable from FDPS

Available from EDRS.

Descriptors—Architecture. *Community Planning. *Economics. *Environment. Higher Education. *Instructional Materials. *Land Use, Secondary Education. *Units of Study (Subject Fields). Values

This material includes student guide sheets, reference material, and tape sents for the audio-tutorial unit on the Synthesis Unit, Land Use Attractiveness. An audiotape is used with the materials. The material is designed for use with Connecticut schools, but can be adapted to other localities. The unit is designed to build on skills tocatities. The unit is designed to boild on sains and information obtained from previous units. This unit emphasizes the development of a land use allocation map based on information on buildability, and fand use attractiveness. Buildability emphasites where development should not be; this unit emphasites where specific land uses should be. (RH)

ED 133 213 SE 021 875 Smith, Dwight G

Uplands and Land Use Decision Staking.
Area Cooperative Educational Services. New
Haven, Conn Environmental Education

Spons Agency Office of Education (DHEW).
Washington, D.C. Office of Environmental Education. Pub Date 75

Pub Date 75 |
Note—58p: For related documents, see SE 021
868-882: Not available in hard copy due to
marginal legibility of original document
Available from—E.P. Education Services. c/o
ACES. 800 Dixwell Avenue. New Haven. CT
06511 (\$25.00 - price includes tape and slides)
EDRS Price MF-50.83 Plus Postage. HC Not
available from EDRS Available from EDRS.

Descriptors - *Agriculture. Earth Science. Ecology. *Environment, Environmental Education. Higher Education. *Instructional Materials. *Land Use. *Secondary Education. *L'nits of

Study (Subject Fields)

This material includes student guide sheets, reference material, and tape script for the audiototorial unit on uplands. A set of, 35mm slides and an audio tape are used with the materials. The material is designed for use with Connecticut schools, but can be adapted to other localities. The materials consider types of uplands, ecology of uplands, use of uplands, and human impact on uplands, (RH)

ED 133 214 SE 021 876 Smith. Dwight G. Planning for Prople and Land Use Decision Maklog.

Area Cooperative Educational Services, New Haven. Center. Conn. Environmental Education

Spons Agency=Office of Education (DHEW).
Washington, D.C. Office of Environmental Education. Pub Date 75

Note-80p.; For related documents, see SE 021 868-882. Not available in hard copy due to marginal legibility of original document

Available from EP Education Services, cto ACES, 800 Dixwell Avenue, New Haven, CT 06511 (\$28.00 | price includes tape) EDRS Price MF.50.83 Plus Postage, HC Not

EDRS Price MF.5U.83 Figs Postage, ma Nos Available from EDRS. Descriptors—"Environment, Environmental Edu-cation, Higher Education, "Instructional Materials, Land Use, Natural Resources, "Population Education, Population Growth, "Population Trends, "Secondary Education, "Historical Conduct Englands *Units of Study (Subject Fields)

This material includes student guide sheets, reference material, and tape script for the audio-tutonal unit on Planning for Reople. An audio tape is used with the materials. The material is designed for use with Connceneut schools, but can be adapted to other localities. The material in this unit considers population growth curves. factors that influence population trends, impact of population growth on the controlment and resources, and community planning (RH)

ED 133 215 SP 021 877 Scharfer, Larry Preziman, Rub Callural Systems and Land Use Decision Making, Area Cooperative Educational Services, New Ĥaven, Conn Environmental Center

Spons Agency-Office of Education (DHEW).
Washington, D.C. Office of Environmental Education.

Education.
Pub Date 75
Note—\$50p.: For related documents, see SE 021
\$68-882. Not available in hard copy due to
marginal legibility of onginal document
Available from—E-P Education Services, c/o
ACES, 800 Diswell Ascinue, New Haven, CT,
06511 (\$1800 - price includes tape)
EDRS Price MF-\$0.83 Plus Postage, HC Not
Available from EDRS.
Descriptors—"Community Plannin8, Colture,
"Environment, Environmental Education,
"Instructional Materials,

*Environment, Environmental Education, Higher Education, *Instructional Materials, *Land Use, *Secondary Education; Social Sciences, *Units of Study (Subject Fields)

This material includes student 80ide sheets, reference material, and tape script for the audiotutorial unit on Cultural Systems. An audio tape is used with the materials. The material is designed for use with Connecticut schools, but ean be adapted to other, localities. The materials in this unit consider components of cultural systems, land use categories, impact of cultural systems on land use, and community and regional plánning, (RH)

EÐ 133 216 SE 021 878 Garlasco, Chris And Others

Local Implementation and Land Use Decision Making.

Area Cooperative Educational Services, New Haven. Conn. Environmental Education Haven. Center...

Spons Agency Office of Education (DHEW), Washington, O.C. Office of Environmental Education. Pub Date 75

lote-45p., For related documents, see SE 021 868-882. Nor available in hard copy due to marginal legibility of original document.

Available from Epp Education Scruces. e/o ACES, 800 Dixwell Avonue. New Hayen, CT 06511 (\$18.00 - price includes tape).

EDRS Price MF-\$0.83 Plus Postage. HC Not

Available from EDRS.

Descriptors.— *Community Planning. *Environment. Environmental Education. Higher Education. *Instructional Materials. *Land Use. Secondary Education. Social Sciences. *Units of Study (Subject Fields). *Zoning

This marerial includes student guide sheets, reference material, and tape script for the audiotutorial unit on Local Implementation. An audio tape is used with the materials. The material is designed for use with Connecticut vehools, but can be adapted to other localities. The material in this unit emphasires the role of planning and aoning in local land use decision making. In-cluded are activities on roning authority, roning classifications, and aoning problems, (RH)

ED 133 217 Schoeler. Larry SE 021 879

SE 021 873

State and Federal Implementation.

Area Cooperative Educational Services, New Conn. Environmental Center.

Spons Agency-Office of Education (DHEW), Washington, D.C. Office of Environmental Education. Pub Date 75

Note—58p.: For related documents see SE 021.
868.882: Not available in hard copy due to marginal legibility of original document.
Available from—E-P Education Services. e/o
ACES. 800 Disuelt Avenue. New Haven. CT

06511 (528 00 - price includes (ape) ORS Price MF.50.83, Plus Postage, HC No.

Available from EDRS.

Descriptors.— Community Planning, Economics, Higher Education, Instructional Materials, Land Use, Legislation, Natural Resources, Secondary Education, Links of Study (Subject

This majerial includes student guide sheets, reference material, and tape script for the audio-jutorial unit on State and Federal Implementation. An audio tape is used with the materials. The material is designed for use with Connecticut. achools, but can be adapted to other localities.

This unit is designed to help answer the Question of what kind of land use planning we should have as well as who should make the decisions. Activities focus on land use programs in selected states. federal programs that relate to land use, and components of land use strategy, IRH)

SE 021 88D

Schaefer, Lasty And Others
Hydrosystems and Land Use Decision Making.

Area Cooperative Educational Services. New Haven. Conn. Environmental Education Center.

Spons Agency-Office of Education IDHEW), Washington, D.C. Office of Environmental Education.

Note-53p: For related documents, see SE 021 868-882: Not available in hard copy due to

abos.382: Not available in hard copy due to marginal legibility of original document.

Available from—E-P Education Services e.o. ACES, 800 Dixwelt Avenue, New Haven, CT 06511 (527:50 - price includes tape and slides) EDRS Price MF-50.83 Plus Postage, HC Not Available from EDRS.

Descriptors....Community Planning. *Earth Science. Ecology. *Environment. Higheft Education. *Instructional Materials. *Land Use. *Natural Resources. Secondary Education. Units of Study (Subject Fields). *Water Resources

This material includes student guide sheets, refetence material, and tape script for the audiotutional unit on Hydrosystems. A set of 35mm slides and audio tape are used with the materials. The material is designed for use with Connecticut schools, but can be adapted to other localities This unit is designed to present information on water and the hydrosystem which must be considered in land use decision making Emphasized are the hydrologic cycle, ground water, watershed areas, and the effects of human use on the hydrosystem. (RH)

ED 133 219

SE 021 881

ED 133 219

Inland Wedands.

Area Cooperative Educational Services, New
Haven Conn Environmental Education Haven. Center.

Spons Agency-Office of Education (DHEW), Washington, D.C. Office of Environmental Puh Date 75

Puh Date 75

Note—57p. For related documents, see SE 021

868-882. Not available in hard copy due to marginal legibility of original document.

Available from—E-P Education Seffices c. Q.

ACES, 800 Dixuell Avenue, tew Haven CT 06511 (522 50 price includes tape And slides).

EDRS Price MF-SO.83 Plus Postage, HC Not.

Available from EDRS.

Descriptors—Busings. Community Planning.

DRS Price Stressons

Available from EDRS.

esteriptors—Busing). Community Pfanting.

*Ecology, Environment, H@ner Education, InMaranals, *Unid Use, *Natural. Descriptors - Biology. structional Materials, Land Use: Natural Resources Secondary Education, Units of Study (Subject Fields)

identifiers - Limnology, Wetlands This material includes student guide theets, reference materials, and tape script for the audity. tutorial unit on Inland Wetlands. A set of asmin slides and an audio tape are used with the matenal. The material is designed for use with Connectiont schools, but it can be adopted to other loealities. The materials emphasize characteristies of inland wetlands, role of these areas for human use, and role of these areas in muintaining water quantity and quality, flood control, and scoment control, IRH)

ED 133 220 Coastal Weilands. SE 021 882

Area Cooperative Educational Services, New Conn Hasen. Environmental Education

Spons Agency—Office of Education (DHEW).
Washington, D.C. Office of Environmental Educution Pub Date 75

Note=62p . For related documents, see SE 021 868-881. Not available in hard copy due to marginal legibility of onginal document

Available from—E.P. Education Services. c o ACES, 800 Diswell Avenue. New Haven, CT 06511 (522 50 - ptice includes tape and stides) EDRS Price WF-50.83 Plus Postage. HC Not

Descriptors Biology. *Ecology Environment, Higher Education, *Instructional Materials, "Land Use, Natural Resources, "Occurology, Secondary Education, *Units of Srudy (Subject Fields)

This material includes student guide sheets, reference materials, and tape script for the audioiutonal unit on Inland Wetlands. A set of 35mm slides and an audio tape are used with the materials. The material is designed for use with Cunnecticut schools, but it can be adapted to other localities. The unit materials emphasize the strue. tore, function, and importance of the weilands Activities include information on valtous aspects of wetlands including food chains, cycles, organisms, and ecological areas, IRH)

ED 134 526

SO 009 783

The Land of Plenty, Materials for Using American Issues Forum in the American History Classroom, Topic II.

New York State Education Dept , Albany Div of

General Education.

Spons Agency... National Endowment for the Humanities (NFAH), Washington, DC Pub Date 76

Note—67p.: For related documents, see ED 123 163: ED 129 661-662, and SO 1009 783-785 EDRS Price MF.50.83 HC-S3.50 Plus Pristake.

Classicsim Descriptors - Case Studies. Techniques, Government Role Grade 11, History Instruction, Instructional Materials, *Land Use, Pulley, Public Opinion, Resource Materials, Secondary Education, *Simulation, *Social Sindies, Teaching Methods, *United States His-

lory, Zoning Identifiers—"American Istues Forum

Three secondary level learning modules provide perspective on U.S. history and current is seen in terms of land-use problems and case studies. Teaching strategies for this topic are diet. Teaching strategies for this topic are prevenied in booklet form as one of a set of materials based on topics identified by the American Issues Forum. Readings and questions guide students through three areas. In "Baily American Experience in Land Life," students read documents which define Provisions for positevaluhonary distribution of western lands. Then they consider effects of American land policy on the native American For example, a speech by a Serices chief indicates Indian concern about timber cutting by Americans on reservations in 1821. "Land Use Today, Whose Decision?" chatfenges students to examine government control of a private land. The tole of the public in shaping government land-use decisions, and zoning standamy in a simulation, students assume tolet of a tren board that determines land-use policy for a To acte Iraci. Alternative strategies are outlined. A Case Study Forest for Sale by Owner Presents a controversy based on proposed con-presents a controversy based on proposed con-struction of a dam in the Adirondacky Students explicitly the issue by reviewing present forest-management policy, water needs of New York take and materials from the hearings on the dam constitution. The majorials are in field less conED 134 538 SO 009 823

King. David C. Wood, Jayne Miller

Suggestions for Curriculum Development [And] Handbook High School Grades, Part D. 10-12. Environmental Education Interdependence: A Concept Approach. Revised.

Center for Global Perspectives, New York, N Y Spons Agency-Office of Education (DHEW), Washington, D.C. Office of Environmental Education.

Pub Date Sep 76

Note-117p.: For related documents, see SO 009 820-822

Available from-Center for Globat Perspectives. 218 East 18th Street, New York, New York 10003 (guide 51.50; handbook 52.00)
EDRS Price MF-50.83 Plus Postage. HC Not Available from EDRS.

Descriptors-Bibliographies. Concept Formation. *Concept Teaching, Curriculum Development. *Environmental Education, Global Approach. Grade 10, Grade 11, Grade 12, *Interdisciplinary Approach. Learning Activities, *Lesson Plans, Objectives, Population Growth, Relation. *Teaching Secondary Education.

Methods. World Problems Identifiers—*Interdependence

Two booklets comprise the grades 10-12 component of a series of guides for incorporating environmental education into the estiting cutrieulum. The guide and handbook emphasize a multidisciplinary approach, use the concept of interdependence as an organizing theme, and offer suggestions for using the local community as a ource The guide outlines nine objectives. including awareness of relationships between seemingly local concerns and global networks, knowing that quality of life of individuals and communities is directly influenced by increasing worldwide interdependence, and recognizing that population and other environmental issues involve deep conflicts of interest. Multidisciplinary volve deep conflicts of interest. Multimorphinary appreaches for reaching these goals involve students in analyzing effects of the 1972.75 grain shortage to the USSR on US food prices, labor unions and dock workers, and inflation in Japan and England in another approach, students develop a relevision documentary perspective of nch and poor persons on environmental coneems. The handbook contains teaching strategies and student materials for nine, lessons. These include studying population growth in countries with varied resources and examining oceans in terms of overfishing pollution, and control juestions. A concluding essay summarizes concerns of natural resources, human needs, and quality of life, (AV)

ED 135 656 Investigating. Your Environment: Teaching Materials for Environmental Education. Forest Service (DOA), Washington, D.C. Pub Date Sep 76

Note-109p., For related document, see ED 103 209. Not available in hard copy due to mar-

ginst legibility of original document Available from—U.S.D.A. Fotest Service, P.O. Box 2a17. Room 3233, Washington, D.C.

200 (3) (no price quoted)

EDRS Price MF.50.83 Plus Postage. HC Not Available from EDRS.

Descriptors—Community Involvement, Conserva-tion Education, "Environmental Education, Higher Education, "Instructional Materials, "Natural, Resources, "Sciences, "Secondary Education, Social Sciences, "Teaching Guider included in this set of environmental education materials for secondary school riudents are six lesson plans. Each lesson plan has six com-ponents. (1) suggestions for testing the stage. (2) individual or group activities. (3) task eards, (a) charts and tables to be used for data interpretation, (5) suggested questions, diseursions, and rummanes, and (6) a statement of anticipated behavioral ourcomes. Lesson plans include the following topies. (1) soil investigation. (2) some water investigations. (3) some forest investigations, (4) invertigating some animals, and their environment. (5) a land use limulation, and (6) investigating a man-built community. (RH)

ED 137 064 Lantz, H. B., Jr. SE 021 528

Water Pollution, Project COMPSEP.
Orange Councy School Board, Va.
Sports Agency—Bureau of Elementary and
Secondary Education (DHEWOE). Washington D.C. Pub Date Jun 75

Pub Date Jun 75

Note—Jip.; For related document, see SE 031
529; Not available in hard copy due to musginal legibility of original document

Available from—Title III Environmental Education Center, Orange County High School.

Orange, Virginia 22960 (no price quoted).

EDRS Price MF.50.83 Plus Postage. HC Not

Available from EDRS.
Descriptors - Environment, *Environmental Education, *Instructional Materials. .*Natural Resources, Pollution, Science Education. Pollutions Science Education.
Education, *Teaching Guides. Resources. Pollution. Science Education.
*Secondary Education. *Teaching Guides.
Water Pollution Control. *Water Resources
Identifiers....Elementary Secondary Education Act
Title III, ESEA Title III

This is an introductory program on water pollution. Examined are the cause and effect relationthips of waset pollution, sources of water pollunon, and postible alternatives to effect solutions from our water pollution problems. Included is background information on waser pollution. a glossary of polluuon terminology, a script for a slide senpt program, actions that can be taken to reduce water polluuon, and a few suggested activities. The materials are designed for students at the secondary school level. (RH)

Igenorus Born W

SE 022 615

An Environmental Syllabus: Grades 10, 11, 12,

New York State Education Dept. Albany Bu-reau of General Education Curriculum reau of G Development Pub Date [77]

Nate-470p. EDRS Price MF-\$0.83 HC-\$24.77 Plus Postage.

Descriptors-Conservation Education, Currieu-*Cut neulum Guides, *Environmental Education. Learning Activities. Natural Resources, Outdoor Education. Pollution. "Secondary Grades, State Curriculum Guides. "Teaching Guides. Units of Study:

This tyllabus is intended as a multi-purpose syllabus for environmental studies in the senior high

school. Some units, of parts of units, are apschool Some units, or parts of units, are appropriate for use in the junior high school. The units in this callabils are [1] The Environmental Status Quo, (2) Natural Environmenta, (3) Food and People, (4) Population Dynamics; (5) Energy, Part I and II (6) Land Use and Management, (7) Transportation, (8) Pollution; (9) Environmental Health. (101 Consumer "Environomucs"
(11) Global Resource Management; (12) Government, Politics, and the Environment. (12) The Environment and Cureurs, and (14) Summary, Lach, unit ry Luch unit contains an introductory or background statement and numerous general understandings that should be descloped by the conclusion of the unit. The main portion of each unit consists of procedures to be employed by the leacher. Many of these procedures are matched with one or more performance indicators to be used at guides in observing and evaluating stu-dent achievement. At the end of each unit is a list of tesoutue materials. (Author/AJ.)

ED 141 159

The Ocean: Source of Nutrition for the Future. A Learning Esperience for Coastal and Oceanic

Awareness Studies, No. 305, [Project COAST]. Delaware, Unix. Newark, Colt. of Education Sports. Agencs.—Other of Education (DHEW). Washington, D.C. PùiriDine 74

Note = 23p , For related documents, see SE 022

EDRS Price MF-\$0 83 HC-\$1,67 Plus Postage.

Descriptors—Biological Sciences, *Food, Health, *Instructional Materials, *Natural Resources, .Nutritions* 'Oceanology, *Secondary Grades, Social Studies, *Teaching Guides, Units of Study

Jenuñers—Project COAS f

The question of future sources of food is posed with increasing frequency as the amount of arable land per person decreases with population growth The role of the needs as a food supplier is currently being, explored. This fearning explored that secondary second students. It is divided into four major areas 11) an overview. [2] marine plants. [3] fish protein con-centrate, and (4) inquaculture. Each of the fise lessons is intended for a daily 45-period, but could be modified. (RH) 45.minute class

ED 144 788 SE 022 971
Aquaculture; A Course of Study for Sand Point
Secondary School.
Alaska State Dept of Education, Juneau Office

of Public Information and Publications Pub Date Nov 75

Note - 49p EDRS Price MF-\$0.83 HC-\$2,06 Plus Postage. Descriptors-*Course Descriptions, *Curriculum, Curniculum Cuides, Fisheries, Interdisciplinary Approach, *Minne Biology, Objectives, *Oceanology, Science Education, *Secondary Grades

ldentifiers - Alaska

This program is designed to involve students in the economy of their community. It combines an interdisciplinary educational program with practi-cal field and laboratory experience. This program provides opportunities in the aren of aquaculture. controlled cultivation of marks table species and the total ecological corrections necessary to maintain a viable fisheries in the Shumagin needs it involves all seventh through tenth grade studenis on a continuous basis. Included are units dents on a continuous basis, Included are units and topies in water quality, general biology, fisheries techniques, aquatie plant and insect studies, biological and physical occanography and limnology, pathology, and aquaculture teuhnology Program philosophy and goals are stated Planned course statements are given for fish husbandry, general biology, water resources, and fisheries science Each statement includes the following: course description, goals, content outline, exam-ples of learning activities, methods of evaluation, and learning materials (AJ)

ED 147 590 CE 014 030

And Others Funn, Petet Transportation and the Environment to Harmony: Mini-Units and Learning Activities for Grades 9 through 12.

Abt Associates, Inc. Cambridge, Mass.
Spons Agency—Office of Consumer Affairs,

Washington, D.C. Pub Date 77 Contract __DOT-OS-30086, DOT-OS-50026 -278p.; For related documents see CE 014 021-012

EDRS Price MF-\$0.83 HC-\$15.39 Plus Postage.

EDRS Price MF-\$0.83 HC-\$15.39 Plus Postage.
Descriptors—Consumer Education, Curriculum Guides, "Environmental Education, Group Activities, Independent Study. "Leaming Activities, Lesson Plans. "Motor Vehiules, Pollution. Resource Materials, Safety Education. Secondary Education. Senior High Schools, Skull Development. Traffic Regulations, Traffic Safety, "Transportation. "Vehicular Traffic

One of a series of eleven curriculum manuals which cover the four transportation topics of public transportation; transportation and the environment, transportation safety, and bicycles for elementary. secondary, and adult levels, this elementary, secondary, and adult levels, this manual covers the transportation and the environment topic for grades 9-12. It contains forty-four learning activities grouped into eight miniumis. Each mini-unit consists of a lesson plan component and an individual learning activities component. The first mini-unit provides a survey of issues celated to transportation and the environment; the rest are as follows: learning about the interrelationships between transportation and the environment, learning about the automobile's effects on the environment, identifying solutions to conflicts between transportation and the environment, taking personal actions to resolve con-flicts between transportation and the environ-ment, examining the theory of and engaging in citizen participation to tesolve conflicts between transportation and the environment; and transportation and the environment: and teseatuhing issues related to transportation and the environment. Affinal Section offers additional activities that may be used to evaluate or supple-ment evaluation of an activity or mini-unit. Also included ath references for further study resources and masters for reproduction of role profiles, game boards, maps, and other distributable materials (A curriculum guide, CE 014 028, is also available for use with the manuals.) (TA)

SIE 022 843 Hershey, John T., Ed. And Offices A Curriculum Activities, Quide to Water, Pollution and Environmental Studies, Volume 1 - Activi-

Institute for Environmental Education, Cleveland, Ohio Pub Date 75

Nose—231p.: For related documents, see SE 022 844 and ED 045 380

Available from-Institute for Environmental Edu. eation 89,11 Euclid Avenue, Cleveland, Ohio 44106 (no price quoted)
EDRS Price MF-\$0.83 HC.\$12.71 Plus Postage.

EDRS Price MF-50.03 Inc. 31 April 1997 Education.

* Environmental Education. * Instructional Materiale, Natural Resources, *Science Activities, *Science Pollution. Saenee Education. *Secondary School Science, Social Sciences, Water Resources

This publication. Volume I of a two volume set, consists of many tested water pullution study bedivities. The activities are grouped into four headings (1) Hydrologic Cycle, 121 Human Activities, 13) Ecological Perspectives, and (4) Social and Political Factors. Three levels of activiues are provided (1) those which increase awareness, 121 those which allow ciudents and teachers to take actions related to particular con-cerns, and 131 those which are onegoing problem investigations. The activities are written with the same format of seven sections. (1) Introduction. (2) Ouestions. (3) Equipment (4) Procedure. (5) Past Studies. (6) Limitations, and (7) Biblingraphs and Resources. The introduction gives grade range, time required, setting, and some ob-jectives for the activity. Obstitunt include those to lead into, initiate, and continue the activity and evaluate student's performance. The bibliography and resources section includes books, films. and other teaching materials. These activities could be very useful in planning and teaching water resource management and water pollution considerations to students from elementary through high school levels in the elassroom and outdoors, and urban and rural settings (MR)

ED 149 965 SE 022 844

Hershel, John T., Ed And Chiers A Curriculum Activities Guide to Water Philintion and Environmental Studies, Volume 11 - Appeadices.

Institute for Environmental Education, Cleveland. Ohio.

Pub Date 75

Note—2619: For related documents, see SE 022 843 and ED 045 230 Available from—Institute for Environmental Edu-

eauon, 8911 Euclid Acenue, Cleveland, Ohio

cauon. 8911 Eurid Acenue. Cleveland. Ohio 44106 and price quoted.

EDRS Price MF-\$0.53 HC-\$14.05 Plus Postage.
Descriptors—Annotated Bibliographics.

*Computer Programs, *Environmental Education.

*Instructional Marcetals. *Laboratory
Techniques. Pollution. *Seconder, School School
Secondary Education. Control Water. Secundary Education. *Secundary Science, Water Pollution Cuntrol.

This publication. Volume II of a two column set of water pollulion studies, contains seven ap-pendices which support the studies. Appendix 1, pendices which support the studies Appendix I, Walet Ouality Parameters, curvolidates the technical aspects of water quality including chemical, biological, computer, program, and equipment information. Appendix 2, implementation, outlines techniques dealing with cost, scheduling, and motivation. Appendix 3, I imitations, deals with problems of time and transportation, methods and equipment, and interpersonal relations. Appendix 4, Evaluation, deals with eig-nitive and affective behavioral objectives. Appennitive and affective behavioral objectives. Appendix 5 contains a comprohensive annotated histography which supplements the specific refurences in each activity in Volume I. Appendix 6 is a comprehensive water pollution and environmental glossity. Appendix 7 containaboratory and field sufety roles. This document is designed to serve as a teacher reference on water pollution. (MR)

ED 149 989 SE 023 459 Encironmental Education. Values for the Euture: Population Grades 9.12.

Illinois State (Iffice of Education, Springfield Spons Agency—tureau of Lementary and Secondary Education (Diffew.OE). Washingtun. D.C. Pub Dale 77

Grant = 10E.551 - 2-75

ote--104p., For related documents, see SE 023 448-457 and SE 023 460-465, Containe nu-merous copyrighted materials

vailable from-ERIC Information Center for Science, Mathematics, and Environ-mental Education, The Onto State University. 1200 Chambers Rd. 3rd Firmir, Columnus. Ohio 43212 Lon kidni

Document Not Available from FDRS.

Descriptors - * Environmental f ducation. *Instructional Materials, Interdisciplinary Approach, *Learning Activities, Natural Resources, *Population Education, Sesence Education, *Secundary Education, *Teaching Guides, Values

Identifiers-Elementary Secondary Education Act Title III

This booklet on population is time of a series in environmental education for grades K-12. The actigities focus on populations and their impacts, as modified by culture and resource needs. Six major concepts are listed, along with three activity options for each. The convepts each include behaviorst objectives and a history of appropriate subject areas. Information given for each activity includes materials and resources, procedures, and discussion questions illustrations, sample forms, and readings are ecutained throughout the booklet. The activities are interdisciplinary and are designed for high school etudents, grades 9-12. IMA)

SE 024 167

ED 153 841

Brock, Pinilis And Others Interdisciplinary Student/Teacher Maierials in Energy, the Environment, and the Economy: Agriculture, Energy, and Society, Grades 10. 11, 12,

National Science Teachers Association, Washing. ton. D C

Spans Agency-Bure au of Intergovernmental and Institutional Relations (DOE), Washington-DC Office of Education, Business and Labor

Report Nn-EDM-1034

Pub Date Feb 78 Contract—EX -76-C-10-3841

Note-102p. For related documents, see SE 024 168-172 and SE 024 218, Not available in hard copy due to marginal legibility of uriginal dieu-

Available from-U.S. Department of Fnergy. Technical Information Office, P.O. Box 62, Oak Ridge, Tennessee 37830 (no price quoted) EDRS Price AtF-\$0.83 Plus Postage, 11C Not Available from EDRS.

Descriptor- * Agriculturul Economics. "Energy. "Food. "Instructings! Materials, Integrated Curriculum, Science Edu-cation, "Se condary Education, Social Sciences, Teaching Gurden

This interdisciplinary instructional unit contains eleven lessons for grades 10-12 which focus on the energy component of food production. There are lessons which contrast fined production systems in various cultures and also lessons which look at different systems and techniques in use in this country. There are levinne dealing with nr. game farming and with the use of wild foods. Each tesson gives an overview, target audience, objectives, materials, time allutment, and teaching structegies, in addition to sudent worksheets (HB)

EU 154 986 SE 023.989

Hetchex, Jolin C And Others A Curriculum Activities Guide to Water Politition and Environmental Studies: Activities, Appen-dices, Volume I and Volume 2. Tilum Schual, N.II.

Spone Agency - Environmental Protection Agen-cy, Wattington, D.C. Office of Water Pro-grams, Fired Foundation, New York, N.Y.

Pub Date 72 Grants, 1171-WP-41-01 Note, 190p For related document, see ED 045 380. Contains occasional light and broken type.
Available from Superintendent of Documents.
U.S. Government Printing Office. Washington.
D.C. 20413 (52-25)
FINS Price \$11-\$1.00 ItC-\$26.11 Plus Postage.

Description— Curriculum Gutdes, Ecology,
*Enerranmental Education, *Instructional
Materials Natural Resources, Outdoor Education, Inflotion) "Scenndary Education, "Water

This activity oriented guide is divided into four sections dealing with the Hydrologic Cycle. Homan Activities: Ecological Perspectives, and Social and Political Factors Each activity contains seven parts (1) an introduction. (2) questions about the activity. (3) necessary equipment; (4) procedures. (5) results obtained by using the study: (6) limitations and problems en-countered with the activity, and (7) an annotated bibliography. The appendices include a discussion of water quality parameters, aids to implementa. tion, suggestions regarding limitations, suggestions for evaluation, a bibliography, a water pollution and environmental glossary, and comments about labotatory and field safety. (CS)

ED 157 757 SE 024 759 Brands, Sandy, Ed. Walters, Casey, Ed.

S.T.E.P. - Students Toward Environmental Par - ticipation - Into Your Environment.

Spons Agency - Florida State Dept of Education, Taliahassee, Office of Environment Education.

Note-59p., Not available in hard copy due to marginal legibility of original document DRS Price MF-\$0,83 Plus Postage, HC Not Price Available from EDRS.

*Biological Sciences. *Educational Games. Descriptors — Activities. *Biology, *Ecology, *Education, *Environmental Education, Role Playing. Secondary Education

This high school environmental guide uses the ludents. Toward Environmental Participation (S.T.E.P.) approach. Activities are designed to develop an awareness of the purpose, interrela-tionship, and wholeness of the earth through activities, games and role-playing Sample activities include: trust walk, seavenger huns, nature cotlage, and alphabet animals. As a guideline for teaching the concepts of the guide, lessons use the structure provided by the S.P.t.C.E. (Similarities and Varieties, Patterns, Interaction and Interdependence, Continuity and Change, and Evolution and Adaption) strands. (Author/RHJ

ED 157 820 SO 011 030 U.S. Energy Polley - Which Direction? Grades 11 and 12. Interdisciplinary Student/Teacher Materials in Energy, the Eavironment, and the

National Science Teachers Association, Washing. ton. D.C.

Spons Agency-Office of the Assixtant Secretary for Intergovernmental and Institutional Rela-tions (DOE), Washington, D.C. Education, Husiness and Labor Affairs, Report No-HCP/U3841-0003

Puh D∡te Jan 78

Cuntract ... EX-76C-10-3841

Note-92p.: For related documents, see SO 011 027-029; Best cupy available

Available from US Department of Energy.

Technical Information Office, P.O. Hox 62, Oak Ridge, Tennessee 37830 (free, paper EDRS Price MF-\$0.83 Plus Postage, HC Not

Available from EDRS. Descripturs—Case Studies, Class Activities, Decision Making, *Fnergy, *Fnergy Conservation, Futurex (of Society), Grade 11, Grade 12, In-

terdisciptinary Approach, Lesson Plans, "Policy Furmation, "Presidents, Sciences, Sentor High Schools, Social Studies Umits, Teacher Developed Materials

This instructional unit for use in 11th and 12th grade such at studies and science courses contains an classroom lessons dealing with United States energy policy the overall objective is to help students understand how elecumstances, present and proposed legislation, political section, and the Constitution itself become linked in the development of a national policy. The lessons, developed by teachers, are, (1) The Nightmare Life Without Fuel. (2) How Can the United States Reduce its Dreendence on Foreign Oils, (3) The President's Powers Where They Come From and flow They Are Used, (4) Advantages and Disadvantages of Coal, (6) Toward the Future. The Advantages of Having National Energy Plan; (6) An Energy Policy is Born Activities in which students are intions, analyzing graphs and research, and snalyzing a case study dealing with President Carter's energy policy. The time needed to teach each lesson varies from nne to three classroom periods. All teacher and student materials, are included.

Also included for the teacher's reference at a brief summary of President Carter's energy policy. (Author/RM)

ED 158 303

CS 204 287

Green, Noeva And Others

Indian River County Environmental Education In-structional Guide: Language Arts, Ninth Grade. Pilot Edition.

Indian River County Board of Public Instruction, Vero Beach, Fla.

Spons Agency... Florida State Dept of Education.
Tallahassee. Office of Environment Education. Pub Date 75

Note-56p: Fo CS204285.287 For related documents, see

EDRS Price MF-20.00 (Environment)
Descriptors—Conservation English Corriculum,
Fduca. "Discovery Learning. English Curriculum.
"English Instruction. "Environmental Education. Grade 9, Group Discussion. Junior High
Schools, "Language Arts. "Learning Activities.
Reading Skills. "Responsibility. Teaching

Reading Skills. "Responsibility. Teaching Guides, Writing Skills As part of a language arts senes for kindergarten through grade nine, this ninth grade guide ex. amines environmental values, concepts, and problems according to a common conceptual scheme, all living things, including humans, are interrelated and interdependent, heredity and environment interact to determine the characteristics of an organism and therefore a population, living things and environments are in a con-tinuous state of change; the world has finite resources and almost infinite demands are made on these resources; and each individual, as an agent of change, has a responsibility to the en-vironment. The guide offers a series of environ-mental activities that stress the development of reading, witting, and discussion skills and emphasize the discovery method of observation. The guide includes background information, a teacher's outline, student task sheets, and appendixes containing various types of word puzzles for-the students. (MAI)

ED 165 991

SE 025 276

Sheridan, Jack

Investigating the Environment: Investigating Re-

investigating the Environment; investigating a source Acquisition and Use.

Harris County Dept. of Education, Houston, Tex.

Spons Agency—Office of Education (DHEW),

Washington, D.C. Office of Environmental Education.; Texas Education Agency, Austin.

Pub Date—77 Grant—ESEA-4-S-4-8-CO-1; ilote—176p.

Available from—Harris County Department of Education, 6515 Irvington Boulevard, Houston, Texas 77022 (52.75)

Texas / 1022 (92.73)
EDRS Price MF-S0.83 HC-S10.03 Plus Postage.
Descriptors— Decision Making Skills, "Environmental Education. "Instructional Materials,
"Learning Activities, "Natural Resources, Petroleum Industry, Problem Solving, Science Edu-cation, "Secondary Education Simulation Identifiers—Texas (Harris County)

This unit provides the student with a simulated experience in the development of decision making skills. The acquisition of petroleum resources in a hypothetical republic provides the basic scenario around which the simulation develops. Students are supplied with specific information about Petroleum scology, finances, and drilling. With this knowledge, students are asked to make economic and environmental decisions concerning the future of the republic. Over half of this publication is devoted to maps, charts, and illustrations that can be removed from the unit and duplicated. Background informa-tion, as well as activity development of the simula-tion, is included for the secondary teacher. (MA)

ED 166 060

SE 026 709

Albert, Harold E. Ed. Putting "Energy" in Your Course: 1978. A Collection of Energy Teaching Units Designed by the Participants of the Energy Institute for Second-ary Science and Social Science Teachers.

Clemson Univ., S.C. Dept. of Political Science. Spons Agency-Department of Energy, Washington, D.C.

Pub Date-78

Contract-DOE-EU-78-G-05-5801

Note-180p. EDRS Price MF-\$0.83 HC-\$10.03 Plus Postage.

Descriptors-Classroom Materials, *Energy, Energy Conservation, Environmental Education,
Instructional Materials, Science Activities, *Science Education, *Secondary Education, Social Sciences, "Teaching Guides

This collection of energy teaching units is the conpribution of participants in a U.S. Department of Energy aponsored institute for secondary science and social audies teachers. The objectives of the institute were to: (1) provide an overview of past, present, and future energy problems, and (2) stimu-late teachers to use this information in their own courses. The units are for a broad range of disci-plines and include topics such as: fossil fuels, energy conservation, nuclear power, economics of energy, coal mining, future trends, U.S. energy policy, electriciry generation, and chemical aspects of energy production. Each unit includes objectives, daily activities and bibliography. (TM)

ED 167 368 SE 026 735 The Global Energy Situation on Earth, Student Guide, Computer Technology Program Environmental Education Inits mental Education Units.

Northwest Regional Educational Lab., Portland. Oreg.

Orteg.

Spons Agency—National Insh of Education (DHEW), Washington, D.C.

Pub Date—Oct 77

Note—28p. For related documents, see SE 026-732-741: Contains light and broken type

Available from—Office of Marketing, Northwest Regional Educational Lab. 710 SW. Second Ave. Portland Oregon 97204 (53.25)

Pub Type—Guides - Classroom - Learner (051)

EDRS Price MF-S0.83 HC-S2.06 Plus Postage,

Descriptors—*Computer Assisted Instruction,

"Energy, "Environmental Education, Global Approach, Higher Education, Natural Resources, Secondary Education, "Simulation, "Social Studies, World Problems

Identifiers—*Energy Education

Identifiers— Energy Education
This is the student guide in a set of five computerpriented environmental energy education units Contents of this guide are (1) Introduction to the unit. (2) The "EARTH" program. (3) Exercises and (4) Sources of information on the energy crisis. This guide supplements a simulation which allows students to analyze different aspects of energy conditions existing around the world (MR)

ED 167 369 SE 026 736 A Computer Simulation of the U.S. Eurep. Crists,
Euergy, Teacher Guide, Computer Technology
Program Environmental Education Units.
Northwest Regional Educational Lab., Portland.

Spons Agency—National Inst. of Education (DHEW), Washington, D.C.
Pub Date—Sep. 75
Note—28p., For related documents, see SE 026
732-741; Contains occasional light and broken

type
Available from—Office of Marketing, Northwest
Regional Educational Lab. 710 S.W. Second
Ave., Portland, Oregon 97204 (53.25)
Pub Type—Guides - Classroom - Teacher (052)
EDRS Price MF-50.83 HC-52.06 Plus Postage.
Descriptors—Annotated Bibliographies. "Computer Assisted Instruction. "Energy, "Environmental Education. Higher Education
"Instructional Materials. Pollution, Secondary
Education "Significance Scored Studies."

Education. "Simulation. Social Studies
Identifiers—"Energy Education
This is the teacher's guide to accompany the student guide which together comprise one of five computer-oriented environmental energy education units. The computer program, ENERGY, at the base of this unit, simulates the pattern of energy consumption in the United States The total energy demand is determined by energy use in the various sectors such as the industrial sector, the transportation sector, the utilities sector, and so on. The demand for energy is shown to grow exponentially in each sector. Students are asked to balance supply of energy with demand by adjusting factors in each sector. This teacher a guide presents, (1) suggestions on introducing the tion. (2) student guide exercises and answers, (3) follow-up activities, and (4) an annotated source list. This unit is appropriate for social studies and en i ironmental education courses grades 9 through 14. (MR)

ED 167 370 SE 026 737 A Computer Simulation of the U.S. Energy Crists. Energy. Student Guide. Computer Technology Program Environmental Education Units. orthwest Regional Educational Lab., Portland,

Spons Agency—National Inst. of Education (DHEW), Washington, D.C. Pub Date—Oct 77

Note-32p.; For related documents, see SE 026

732.741

Available from—Office of Marketing, Northwest Regional Educational Lab., 710 S.W. Second Ave., Portland, Oregon 97204 (\$3.25)

Pub Type— Guides - Classroom - Learner (051)

EDRS Price MF-50.83 HC-52.06 Plus Postage.

Descriptors—"Computer Assisted Instruction, Economics, "Energy," Encironmental Education, Higher Education, Natural Resources, Pollution, "Secondary Education, Simulation, Social Studies."

dies
Identifiers—"Energy Education
This is the student guide in a set of five computer-This is the student guide in a set of live computer-oriented environmental/energy education units. Content of this guide. (1) introduce the unit. (2) describe the "ENERGY" simulation. (3) give in-structions for running the simulation; (4) give exer-cises for the unit, and (5) present sources of information on the energy crisis. (MR)

SE 026 740 A Computer Oriented Problem Solving Unit, Co sume. Teacher Guide. Computer Technology Pro-

Northwest Regional Educational Lab., Portland.

pons Agency—National Inst. of Education (DHEW), Washington, D.C. ub Date—Sep 75

Note-19p.: For related documents, see SE 026 732-741

Available from—Office of Marketing, Northwest Regional Educational Lab., 710 S.W. Second Acc., Portland, Oregon 97204 (\$3.00) Pub Type—Gindes - Classroom - Teacher (052)

Pub Type— Gindes · Classroom - Teacher (052)
EDRS Price MF-50.83 HC-51.67 Plus Postage.
Descriptors—"Computer Assisted Instruction,
Ecology, "Energy, "Environmental Education,
"Higher Education, Mathematics, Problem Solving, Resource Allocations, "Secondary Education, Social Studies
Identifiers—"Energy Education
This is the teacher's guide to accompany the atudent guide which together comprise one of five

dent guide which together comprise one of five computer-oriented environmental/energy educa-tion units This unit explores US energy consump-tion is applicable to Mathematics, Social Studies, and Ecology or Science Studies with Mathematics background: and is intended for use in grades 9 through 14. The unit is divided into five sections through 14 The unit is divided into live sections each dealing with a main issue such as: (1) growth in energy demand. (2) problems converting and distributing energy, (3) new energy sources; and (4) transportation and energy consumption. Each section is concluded with a set of exercises with which a computer may be used. This teacher's guide gives an introduction to the unit, unit goals and objective. tues, answers to exercises, and an annotated bibliography. (MR)

ED 167 4S2 SO 011 526 Energy and Conservation Education: Activities for the Classroom, Grades 10-12, Energy and Man's Environment, Inc., Portland,

Note—487p.: For related documents, see SO 011 523-529: Article on pages 46-54 by Business Week, January 20, 1975, entitled "Utilities, Weak Point in the Energy Future" has been removed by ERIC due to copytight law Audable from Energy and Man's Environment. 0224 S.W. Hamilton, No. 301, Portland. Oregon 97201 (\$24.00)

Pub Type - Guides - Classroom - Teacher (052) EDRS Price MF-\$1,00 Plus Postage HC Not

Available from EDRS.

Descriptors—Class Activities. Classroom Games.

"Concept Teaching. "Conservation Education,
Educational Objectives. "Energy, "Energy Conservation, "Environmental Education, Environmental Education. mental Influences, Fuels, Futures (of Society), Grade 10, Grade 11, Grade 12, Instructionat Materials, Interdisciplinary Approach, *Learning Activities, Natural Resources, Secondary Education. Social Studies, Student Evaluation, Teacher Developed Materials, Teaching Guides The instructional materials and classroom activi-

the instructional materials and classroom activi-ties described in the document are intended to aid teachers in grades 10 through 12 develop and imple-ment educational programs dealing with energy-related issues. The document is Presented in four sections. Section I explains the organization of the document and summanzes how teachers should implement activities and assess student performance. Section II consists of a matrix of activities described-in the document. Information is presented on grade level, time required, and subject matter. Section III describes learning activities in six areas. (1) sources of energy. (2) uses of energy. (3) conversion of energy from one form to another. (4) impact of energy use on the environment. (5) limits of the earth's resources, and (6) the future For each activity, information is presented on title, concept, time, im-plementation, materials, and optional activitiesprementation. materials, and optional activities. Activities involve students in library research, identifying energy sources used in food and, clothing production, suggesting solutions to energy use problems, responding orally and in writing to articles on energy costs and energy inexample and energy impact statements, identifying sources of unwise energy use, and discussing energy-related topics with classmates and tesource people. The tinat chapter presents information on student assessment. Suggested test items are Plesented along with suggesuons on how to use them and an explanation of the origin of the test items. (DB)

ED 169 564 CS 204 80 Environmental Education Guide; Language Arts CS 204 803

Project I-C-E, Green Bay, Wis.

Spons Agency—Office of Education (DHEW), Washington, D.C.; Wisconsin State Dept. of Public Instruction, Madison.

Pub Date—78 Contract—300-77-0105

Note-117p.; For related document, see CS 204 802

- Guides - Classroom - Teacher (052)

Pub Type— Guides - Classroom - Teacher (052)
EDRS Price - MF01/PC05 Plus Postage.
Descriptors—Behavioral Objectives, Ecology,
"English Curriculum, "English Instruction, "Environmental Education, "Interdisciplinary Approach, "Language Arts, Listening Skills,
Pollution, Reading Skills, Secondary Education,
Speech Skills, Validated Programs, Writing Skills Identifiers—National Diffusion Network Programs,
Project ICE

Written for use with students in grades nine through twelve, this handbook links natural ecologiral issues with language arts instruction. It contains a series of lesson plans, each offering a number of suggested learning activities for use both in and out of class. The lessons are built around 12 major envi-ronmental concepts that form a framework for each subject area. In addition, each lesson offers subject area integration, multidisciplinary activities, cogni-tive and affective behavioral objectives, and sug-gested reference and resource materials for both the tracher and students. (FL)

Investigating Your Environment: Teaching Materials for Environmental Education. October 1978

Forest Service (DOA), Washington, D.C.

ble from EDRS.

Pub Date—Oet 78
Note—137p., For related document, see ED 135

Note—13/p., For related document, see ED 133 656. Not available in hard copy due to marginal legibility of original document Available from—U.S.D.A. Forest Service, P.O. Box 2417. Room 3233. Washington, D.C. 20013 (free) Pub Type—Guides - Classroom - Teacher (052) EDRS Price - MF01 Plus Posrage, PC Not Availa-

Descriptors-Earth Science, *Environmental Edueation, Forestry, *Instructional Materials, Land Use, *Natural Resources, *Pollution, Science Education. *Secondary Education, Sociology, Soil Science. *Teaching Guides. Water Pollution Control, Wildlife Management

included are seven lesson plans for secondary school students. (1) soil investigation. (2) water investigations. (3) forest investigations, (4) investigating some animals and their environment. (5) a land use simulation. (6) investigating the human community, and (7) developing environmental investigations. Each lessin plan has seven components: (1) suggestions for setting the stage; (2) in-

dividual or group activities. (3) task cards for petivities. (4) charts and tables for data interpretaion. (5) suggested questions and discussion points. 6) anticipated behavioral outcomes, and (7) a list of equipment needs (RE)

ED 174 407 SE 027 836 Ecology and Human Values: A Course of Study. (Working Draft). SE 027 838

Wisconsin State Dept of Public Instruction, Madi-40n

Report No.—WDPI-Bull-3171
Puh Date—[72]
Note—61p., For related document, see ED 055 864 Document prepared through the Dissemination

Pub Type-Guides - Classroom - Teacher (052) -

Pub Type—Guides - Classroom - Teacher (052) —
Guides - Classroom - Learner (051)
EDRS Price - MF01/PC03 Plus Postage,
Descriptors—Air Pollution Control. *Ecology.
*Environmental Education, Land Use, *Natural
Resources, Pollution, Population Education,
Science Education, *Secondary Education, Social
Problems, *Social Studies, Social Values, Technology, *Values, Waste Disposal, Water Pollution
Control, Water Resources |

Control. Water Resources {
This interdisciplinary course is designed for senior year high school students in social studies and/or seience. Its main thrust is the investigation of human values as they relate to the environment al-though rooted in the natural sciences as a means of understanding the complexities inherent in the enviunderstanding the complexities inherent in the environment. Use is made of the ease study approach to environmental issues feontroversial questions) together with participatory research in the community. Multi-lext, small group instruction, individual projects, and simulation techniques are also incorposated to develop an understanding and a corresponding value and behavior change in the interest techniques. ter-relationship of man to his biophysical and sociocultural environment. The course is subdivided ocultural environment. The course is subdivided into seven sections. (1) An introduction to Crises. (2). Ecology: (3) The Nature of Man: (4) Science-Technology: (5) Concerns Caused by Science-Technology: (6) Population: and (7) The Role of the ocientist. Citizen. Industrialist, and Administrator in Ecology. Each unit indicates the subtopics to be covered, objectives, generalizations, methodology, culminating activities, evaluation, resources, and supplementary information where appropriate. (Author/RI) thot/BL)

ED 174 436 SE 028 253 Introductory Curriculum Materials. Project ED 174 436

SCATE.

Iowa State Dept. of Public Instruction. Des Moines.
Div. of Curriculum.

Spons Agency—Office of Education (DHEW),
Washington. D.C.
Pub Date—[76]

Note—55p.: Not available in hard copy due to marginal legibility of original document
Pub Type— Guides - Classroom - Teacher (052)

EDRS Price - MF03 Plus Postage. PC Not Available from EDRS.

ble from EDRS.

Descriptors—*Conservation (Environment), Critical Reading, Critical Thinking, Decision Making, Economic Factors, Energy, Environment, *Environment, *Envir conmental Education, Industrie Methods, Land Use, *Problem Solving, Science Education, *Sccondary Education. Units of Study. *Values

The objective of Project SCATE (Students Con-cerned About Tomorrow's Environment) is for students to investigate environmental problems and the Political processes involved in their solution. The four identified areas of concern are: (1) land use policy development. (2) air and water quality. (3) energy allocation and consumption, and (4) coonomic considerations related to the quality of life. This document contains instructional units, including objectives and activities, centering around the four concerns. Unit titles ate (1) Identifying a problem; (2) Clearly stating a problem. (3) Determining testable and non-testable statements. (4) Generalizing; (5) Model Assembly; (6) Land Use; (7) Discovering a biological community: (8) Children's forest. controverry: (9) Great swamp; and (10) Urban atutties (TM)

学 SE 029 132

The Ocean Source of Sutrition for the Future. Numbers New England Marine Education Pro-

Maine Univ. Orono. Coll. of Education. Maine

Univ., Orono, Sea Grant Program.

Spons Agency—National Oceanic and Atmospheric Administration (DOC), Rockville, Md National Sea Grant Program.

Pub Date-78

Note-45p.: For related documents, See SE 029 133-135, Not available in hard copy due to copyright restrictions

Pub Type- Guides - Classroom - Teacher (052) EDRS Price - MF01 Plus Postage, PC Not Available from EDRS.

Descriptors—"Biology, Class Activities, Earth Science, Ecology, "Environmental Education. *Home Economics Education. *Interdisciplinary
Approach, Marine Biology. Oceanology. Seience Education, Secondary Education, Social Studies

Identifiers-Sea Grant

This unit provides lessons utilizing aspects of aquaculture to portray concepts in several second-ary school disciplines. Extensive background is provided on four marine species eutrently cultured in Maine. The history of aquaculture in Maine is provided. A bibliography of sources of information on aquaculture follows the background section. Two lesson outlines are provided. Each includes an introduction, overview, teacher and student background. and suggested activities according to the discipline being considered. Appendices include a list of matme aquaeusture companies, directions for the estabus ment of a matine aquarium, and a list of information resources. (RE)

ED 179 375 SE 028 82
Day, John Weeden, Kenneth P
Western Coal, Boom or Bust! Grades 9-11. Interdisciplinari Student Teacher Materials in Energy, the Environment, and the Economy. SE 028 823 National Science Teachers Association. Weshington, D.C.

Spons Agency-Department of Energy, Washing-ton, D.C. Office of Education, Business and Labor

Affairs. *Report No.—HCP/U-3841-10 Pub Date—Jun 79 Contract.—EX-76-C-10-38a1 Note—77p.

Note—77p.

Available from—U.S. Department of Energy, Technical Information Center. P.O. Box 62. Oak Ridge, TN 37830 (no price quoted)

Pub Type—Guides - Classroom - Learner (051) — Guides - Classroom - Teacher (052) — Collected Works - Serials (022)

EDRS Price - MF01/PC04 Plus Postage.

Descriptors—Energy, Environment, *Environmental Education Environmental Information - Fruits.

Descriptors—Energy, Environment, "Environmental Education, Environmental Influences, "Fuels, History, "Interdisciplinary Approach, Land Use, "Natural Resources, Pollution, "Science Education, "Secondary Education, Social Studies Identifiers—Coal, "Energy Education This unit uses energy choices to raise questions about the energy opinion of coal available to the natural energy opinion of coal available to the natural energy opinions."

tion along with attendant advantages and disadvantages of this option. The unit introduces locations of east deposits in the U.S. and their types. Emphasis is on relatively unexploited deposits in the western United States Companisons are made between western coal and that of the east. Heat and suffer content are discussed. Possible boom town effects We discussed iff the context of development of e-sources. Strp mining controversies are examined.
(Author/RE)

SE 029 435 ED 179 412

SE 929 43
Frudiand James Frishman, Austin
Hudrington II Simulation Program
MALAR,
Student Workbook, Teacher's Guide, and Re-

source Handbook, reacher's Guide, and Resource Handbook.
Digital Equipment Corp. Maynard, Mass; State Univ. of New York, Stony Brook, Huntington Computer Project.

Spons Agency—National Science Foundation, Washington, D.C.
Pub Date—Mar 73
Grant—NSF-GW-5883
Note—95p; For related documents, see SE 029
43a-aa0 and ED 093 644-645; Not available in hard copy due to marginal legibility of original document

Pub Type — Guides - Classroom - Leamer (051) — Guides - Classroom - Teacher (052) EDRS Price - MF01 Plus Postage, PC Not Avails-

ble from EDRS.

bie trom EDRS.

Descriptory—Biology, *Computer Assisted Instruction. Computer Programs. *Ecology. Enteronment. Game Theory. *Health Education,
*Models. *Science Education, Secondary Educa-

"MODELS, "Science Education, occopiary Education, "Simulation, Social Studies
Described is the computer model "MALAR"
which deals with malaria and its eradication. A
computer program allows the tenth- to twelfthgrade student to attempt to control a malaria epiocimic. This simulation provides a context within
the student to attempt to control a variety to entire the hidderical computer access. which to study the biological, economic, social, political, and ecological aspects of a classic world realth problem (Author/RE)

ED 179 415

SE 029 438

Frihman, Ausun Huntington II Simulation Program - RATS, Stu-dent Workbook, Teacher's Guide, and Resource Handovok.

Distral Equipment Corp., Maynard, Mass. State Univ of New York, Stony Brook, Huntington Computer Project.

Computer Project.

Stons Agency—National Science Foundation.
Washington, D.C.
Pub Date—May 7a

Grant—NSF-GW-5883

Note—70p.: For related documents, see SE 029
434-440 and ED 093 644-645; Not available in
head continue of constraints. hard copy due to marginal legibility of original document

Pub Type-- Guides - Classroom - Learner (051) --Guides - Classroom - Teacher (052) EDRS Price - MF01 Plus Postage, PC Not Availa-

EDRS Frice - MFUI Plus Postage. PC Not Available from EDRS.

Descriptors—*City Problems. *Computer Assisted Instruction, Conservation Education. *Economic Disadvantagement. Environment. *Environmental Education. Game Theory. Instructional Materials. Pesticides. Rats. Rodenucides. Science Education. Secondary Education. *Simulation. Urban Environment

Presented are instructions for the use of "RATS," a model simulating the dynamics of a rar population in either a city of an apartment house. The student controls the conditions of growth and sets the Points at which the computer program prints reports. The rat population is controlled by variables including garbage levels selected for the site, and types and quantity of poison applied. At the end of the simulation, the Profiam prints details on the nature of the rat population, the dollar value of damage done by the rats, cost of poison, and amount of poison left uneaten. (Author/RE)

FD 184 860

SE 030 513

Nous, Albert P. Urban Environmental Education Project, Curriculum Module II; Energy Conservation - What Are the Ottons?

Allegheny Intermediate Unit. Pittsburgh. Pa.
Spons Agency—Office of Education (DHEW).
Washington, D.C.

Note—50p. For related documents, see SE 030 511-519. Contains occasional light and broken

type.
Pub Type— Guides - Classroom - Leatner (051) —
Guides - Classroom - Teacher (052)
EDRS-Price - MF0I/PC02 Plus Postage.
Descriptors—"Class Activities. "Conservation Education. "Energy Energy Conservation. Environment. "Environmental Education. Physical Sciences, "Science Education. Secondary Education. "Urban Education Identifiers—"Energy Education Included in this module are five activities dealing with energy education in the urban environment."

with energy ednservation in the urban environment. The activities include (1) conducting an energy inventory: (2) the Physical nature of temperature. space, and insulation and their effects on energy use:
(3) blackours: (4) the sellers and consumers of energy. (5) energy conservation decision-making.
Also included are an overview, teacher background. information, an activity presiew, and a presest. (RE)

ED 184 863

135

Big.an. Barbata Urban Environmental Education Project. Cur-ricutum Module V. Urban Air Quality - At What Court!

Alecheny Intermediate Unit, Pittsburgh, Pa Spors Agency—Office of Education (DHEW), Washington, D.C. Pub Date—Aug 29

Note-52p.: For related documents, see SE 030

160

511-519.

Pub Type— Guides - Classroom - Learner (051) —
Guides - Clatsroom - Teacher (052)

EDRS Price - MF01 PC03 Plus Postage.

Descriptors— Air: Poliution. "Class Activities.

*Decis on Massing Energy *Environmental Influence-es, Fuer Consumettion, Environmental Influence-es, Fuer Consumettion Fuers, Meteorology Michie Schools, Poliution Science Education, Strondary Education, Urban Education Urban Zevironment, *Liban Problems

Leer figers— *Energy Education

L'Aronnent, "L'roan problems lacrifiers—"Energy Education in "Ided in this mode, are five activities dealing win air quality and sources of air pollution in the urran environment. Activities included are (1) the urran environment. Activities included are (1) the culture of the aimosphere. (2) discussion of major population. (3) measuring air quality. (4) inversions and (5) poliution control. Also included are an overview, teacher background information, an activity preview, a pretest, and a module evaluation form (RE)

ED 184 864.

SE 030 517

Biglon, Barbaro Urban, Environmental Education Project, Cur-riculum Module VI: Solid Waste - Trash or Treasure?

Allegheny Intermediate Unit, Pittsburgh, Pa.
Spons Agency—Office of Education (DHEW);
Washington, DC

Pub Date-Aug 79 Note-142p.. For related documents, see SE 030 511.519.

Pub Type—Guides · Classroom · Learner (051) —
Guides · Classroom · Teache · (052)
EDRS Price - MF01/PC02 Plus Postage.
Descriptors—*Class Activities, *Decision Making,
*Environment, *Environmental Education, *Environment *Environment. *Em tronmental Education. *Environmental Influences. Middle Schools Natural Resources. Pollution. Reayching. Science Education. Secondary Education Urban Educat ban Environment, *Urban Problems, Waste DisPosal, Wastes

Included in this module are four activities dealing with issues of solid waste disposal relative to urban concerns included actuates are, (1) sources and composition of solid waste, (2) a "garbage game". (3) disposal options for solid waste, and (4) an example county plan for solid waste disposal. Also treluded are an overview, teacher background information, an activity provide, a pretest, and a module evaluation form (RE)

ED 188 936

Terry, Mark Conceptual Guide to Environmental Education in Washington State Secondary Schools: An Invitation and Guide to Implementation.

Washington Office of the State Superintendent of Public Instruction. Olympia.

Pub Date -80

Note-71p: Contains occasional light and broken

Pub Type- Guides - Classroom - Teacher (052) -Guides - Non-Classroom (055) EDRS Price - MF01/PC03 Plus Postage.

Descriptors—Conservation Education. *Curriculum Development *Educational Planning.
*Environmental Education. *Interdisciplinary Approach, Outdoor Education, Program Descriptions. "Public Policy. "Secondary Education

This guide is intended to provide a logical ap-Proach to the improvement of environmental education at the secondary school level. It includes: (1) an introduction: (2) four goals for environmental edu-cation. (3) the rule of the environmental studies course (4) where to go with environmental education. (5) a Planning and evaluation checklist, and (6) an annotated resource list for the State of Washing. ton A guide to discussion of specific subject area references is also provided for the guide (RE)

SE 030 981

Lander, Nancy Herhenneton, Arorun
Critical Choices, Teacher's Guide and Student
Guide, Net Energy Unit, Draft,
Michigan State Univ, East Lansing, Conperative,
Extension Services, Michigan State Univ., East
Lansing, Setence and Mathematics Teaching Con-

Spons Agency—Department of Energy, Washington, D.C., Michigan Dept. of Commerce, Lansing, Pub Date—28 Mar 79

Grant—EC-77-6-01-5092*
Biote—79p.: For related documents, see SE 030 975-985 and ED 180 774.
Pub Type— Guides : Classroom - Learner (051) — Guides : Classroom - Teather (051) — Guides : Classroom - Teather (051)

Guides · Classroom · teather too.

EDRS Price - MF01, PC04 Plus Postage.

Descriptors— Attitudes, "Class Activities, Conservation Education, "Curroulum Development,

Decision Making, "Energy, "Energy Conservation. Environmental Education. Evaluation Methods. Home Economies. Interdisciplinary Approach, Natural Resources. Opinions, Science Education, Secondary Education, Social Studies Identifiers— Energy Education

This module is intended to assist students to evaluate how students in American high schools view their use of energy. Values clarification activities consider energy conservation and energy use habits. The activities are intended to cover one to two class periods and involve discussion, small group activities, and language arts, (Author, RE)

ED 190 3S3

McLeod. Ruchard J.

Conservation Not Conversation (Or More Action and Less Falk). Teacher's Guide and Student Gulde, Net Energy Unit. Draft.

SE 030 984

Michigan State Univ., East Lansing Cooperative Extension Service; Michigan State Univ., East Lansing, Science and Mathematics Teaching Cen-

Pub Type- Guides - Classroom - Learner (051)-Guides . Classroom - Teacher (052)

Guides Classroom - Teacher (052)
EDRS Price - MF01/PC01 Plus.Postage.
Descriptors—Class Activities. "Conservation Education. Curriculum Development. "Decision Making. "Energy, "Energy Conservation. Environmental Education," Fuel Consumption. Information Dissemination. Interdisciplinary Approach. "Natural Resources, Public Policy. Science Education, Secondary Education, Social Science.

- Energy Education Identifiers-

This module focuses on conservation measures to gain energy Students are asked to list various conservation measures they can make at home and in their personal transportation; from these they determine the gain associated with each measure. The students are also asked to consider conservation measures in terms of effect on lifesty le. An optional activity includes a Publication of a new sletter for the community. One class period is required to implement the module. (Author RE)

ED 191 745 v SE 032 880 Bottenelle, Churles A.

The Energy Scorecard: A Way to Trim Your Energy Bills. Teacher's Guide. Energy Information Associates, Inc. Littleton.

Colo.

Spons Agency—Colorado State Office of Energy Conservation, Denver.
Pub Date—Oct 79
Note—26°p. Page HE-2 removed due to copyright restrictions. Some colored Pages may not reproduce well.

product well.

Pub Type— Guides - Classroom - Teacher (052)

EDRS Pilee - MF01/PC11 Plus Postage.

Descriptors— Class Activities. Curriculum Development. "Decision Making. "Energy. "Energy Conservation. Fuel Consumption. Home Economies. "Interdisciplinary Approach. Mathematics Education, Public Policy, Science Education.

Secondary Education, Social Studies Identifiers—Energy Education

The goal of this mani-unit is to involve students and their parents in a cooperative exercise to increase awareness of areas of household energy consumption. Low-cost methods for reducing energy waste and reducing energy costs are provided. The made and requests energy costs are provided. The document has separate sections containing activities in the disciplines of, (1) home economics, (2) mathematics, (3) science, and (4) social studies, (Author/RE).

ED 193 047 SE 032 946 Ayer. Robert And Others

Explottation or Convervation, Today's Choices for Tomurroy. A Guide to Activities and Strategies

in Environmental Education, Grades 9-12.

Alachia County Schools, Gainesville, Fla
Spons Agency -Finrida State Dept: of Education,
Tallahassee Office of Environment Education,
Pub Date—Aug ?"
Note—2440 Cumains occasional light and broken

type

Pub Type-- Guides - Classroom - Teacher (052)

Pub Type -- Goode - Classroom - Following - BDRS Price - MF01, PC10 Plus Postage. Descriptors -- Boylogs, -- Environmental Education. Interdisciplinary Approach, "Natural Resources, Physical Sciences, "Pollution, Resource - Boylogs -- Boylogs sources, Physical Sciences, "Pollution, Resource Linus, Science Instruction, Science Instruction, Secondary Education, Secondary School Science, "Social Studies Identifiers—Environmental Problems, Environmental Quality

Presented in this guide are classroom and outdoor tessons intended to assist high school teachers in implementing environmental education objectives. Provided for each objective are background infor-mation, up to 15 related activities, and teacher ques-tions designed to facilitate students' investigations. Among the learning strategies used are role-playing, field studies, library research, and interviews of local residents. Emphasis is upon data collection and smong the learning strategies used are role-playing. discussion by students. The student's role in natural and social environments is stressed in most activa-

ED 193 048

SE 032 947

Helmick, Roben And Others Environmental 1.D.E.A.S. Clusters 10, 11, 12, Physical Sciences, Preliminary Edition.

Polk County Board of Public Instruction, Barton,

Spons Agency—Florida State Dept of Education.
Tallahassee Office of Emironment Education.
Pub Date—Jun 7:

Note-122p. Not available in hard copy due to marginal tegibility of original document. Best

copy available
Pub Type — Guides · Classrooms Learner (051) —
Guides · Classroom · Teacher (052)
EDRS Price · NIFOI Plus Postage, PC Not Availa.

ble from EDRS.

ble from EDRS.

Descriptors—"Chemistry, "Earth Science, "Environmental Education "Natural Resources, Resource Units, Science Education, Science Instruction, Scientific Concepts, "Secondary Education, "Social Studies Identifiers—"Emitonmental Problems
Approximately 30 experiments related to environmental problems comprise this manual. The three concepts, themes under which these lessons of consistency and colours of the problems.

are organized oes! with (1) change, (2) the interaction of custom rule, and law in society, and (3) conomy, life ki, e, and individual attitudes Provided are materials for both students and teachers. Teacher materials include background information. student objectives, references, and conceptual rheme statement Listed in the student materials are the problem, materials needed, procedure, discussion questions, and suggested follow-up expertments (WB)

ED 196 102 CS 503 212 Kleinau Marion And Others

Project Eco-Drams-A Model.

Southern Illinois Univ., Carbondale.

Spons Agency-Office of Education (DHEW).

Washington, D.C. Office of Environmental Edu. cation.

cation.

Pub Date—{75}

Note—84p; "Not a Drop to Drink." page 53.

Pub Type— Reports - Descriptive (141) — Guides - Classroom - Teacher (052)

EDRS Price - MF01/PC04 Plus Postage.
Descriptors— Attitude Change. Change Agents. Communication Skills. Community Attitudes. Contervation (Environment). Drama. "Ecology.

Elementary Secondary Education. *Interdisciplinary Approach. *Learning Activities. Program Descriptions. *Speech Curriculum. Student Atti-

Focusing primarily on the education of high school students, the project described in this paper combines traditional ecology studies with studies in communication and the verbal aris in order to build an awareness of community problems and Provide a means by which students can transmit their learn. ing to the community. The first section of the paper discusses methods and forms for integrating classes in ecology with those in basic communications, debate, oral interpretation and readers theatre, litera.

tute, or mass communication. The second section gives specific evereives for group interaction that include interpersonal approaches, games, role playing, audience debate techniques, and other exercises that may lead into the creation of scripts. The seetion also provides suggestions for devising similar eaercises. The third section discusses the erestion of seripts for readers theorre and contains some sample seripts that have evolved from the project. (FL)

The Litter Problem, Environmental Education Supplementary Instructional Guide. Secondary

Hawan State Dept. of Education, Honolulu, Office

of Instructional Services
Report No - RS-79-8219
Fub Date-Sep 79

ote-89p . For related document, see SE 033 934 Not available in hard copy due to marginal legibil-

ity of original document. Type— Guides - Class Pub Type— Guides - Classroom - Teacher (022) EDRS Price - MF01 Plus Postage, PC Not Availa-ble from EDRS.

Descriptors-Community Problems. resemptors—"Community Problems, "Environ-mental Education, Instructional Valentals, Viath-en 2005 Education, Sevondary Education, Social Studies, Student Projects, "Waste Disposal, "Wastes

Presented is a guide for helping secondary school stades with estigate the inter problem acquire litter control calls, and develop an anti-litter either. The manual contains a hierarchy of learning Objectives. a presest positiest background information on litter, and activities keyed to the learning objectives. Each session includes brief statements of content, instructional activities, and assessment tasks. Provided in the appendix are a glossary, a list of organizations and agenties invoked in litter control, supplementate mathematics problems, and more than 20 litter-AVB)

ED 199"116 "Weegs Paul 4 _ SE 03+ 685

tter. Frank C Our Energy Options. Rockford Public Schools 205, III

Spons Agency-ington. D.C. -Department of Education, Wash-

Pub Date -- 81 Note-\$4p. Contains photographs which may not

reProduce well
Pub Type— Reference Materials (130) — Reports

Pub Type—Reference Materials (1907—Reports
Descriptive (141)
EDRS Price - MF01 PC03 Plus Postage.
Descriptive—Energy, Energy Conservation, "Environmental Education, Patures to Society, Long Range Planning, "Science Education," Secondary Education, "Social Studies Technological Advancement, "Technology, Identifiers—"Alternative Energy Sources, Project APEC

APEC
Presented is an analysis of atternatives available to
the United States in dealing with energy problems
Options explained and each asted include coal so of hydroelectrie, nuclear geothermal wind biomass, and energy conservation. The book et sizon of Project APEC (America's Possible Energy Choices) a nationally validated Title IV. Project designed to educate teachers of grades 9-12 about energy and provide related study units and materials for situents in these grades (WB)

ED 200 397 SE 033 408 on Suctear Technology Trizen Education on ICENTI, Teacher's Guide

Intermountain Science Expérience Center, idaha Fally Idaha

Spors Agains - Department of Education, Washington D C Report No -INTERSEC-50-1B

Bureau No - 522 AH 90 640

Fino Date -80 Grans - GOO 90-045

Gram GOO 902045
Nate - 2p For to a region ment see \$E 033 40°
Pub Type Go see Coor on Teacher 10521
EDRS Price - \$1101 PC02 Plus Protage
Descriptors Cot an Force 5 toon "Community
Education, "Energy Interds, purpose Appendix Nuclear Energy Nation Physics "Power Technology, "Radiation 5, once Activities "Science Curriculum Sacrae Editum in Salence instruc-tion Secondary Editum in Secondary School Science, Teaching Gordes

Using an interdisciplinary approach this cur-riculum focuses on understanding 41) the famoa-mentat principles of operating a nuclear power plant. (2) the place of unctest emergy in the exercit energy supply demand intention (3) minister effit balan, clofishe image energy your ces, and fay the role collable of the smaller or devictioning interest in the objection of positival action in devictioning interest in the smaller for both high school volchood and adults in communities where nuclear energy has housing an issue. The teaching golds presents backs ground insermation, possible lefts the and serves as a resource for the succession examine of a topic (A tiner Die

SE 034 451 ED 200 408 Pennay Ivania's Energy Curriculum for the Second-

ary Grades: Informational Module. Pennsylvania State Dept of Education, Harrisburg Spoos Agency - Pennsylvania State Governor's En-

ergy Council, Harrisburg Pub Date—80

Note-10ap., For related documents, see SE 034 210-457.

Pub Type-Guides - Classroom - Teacher (052) -Reference Materials (170)
EDRS Price - MF01 PC05 Plus Postare.
Descriptors—Current Events. Energy

Conservation, "Environmental Education, Inter-

disciplinary Approach *Science Education, Sec-ondary Education, *Secondary School Science, *Social Studies Pennsylvania's Department of Education pro-

vides eight energy education modules that cover different secondary school disciplines. This introductory publication is designed to accompany each of the eight subject-area modules. It contains back-ground information for teachers on topics ranging from energy's definition and past uses to nuclear waste disposal, energy conservation, and principles of energy evinomies. Also included are a glossary, hibliography, and list of free films and other resource materials (NB)

ED 201 501 SE 034 841 Winslow, Donald R.

Multidisciplinary Education 31E: Environmental Studies, Study Guide. Indiana Univ., Bloomington, School of Continuing

Studies.

Pub Date-

Pub Date—80
Note—82p.: Appendix, pages 43.57, removed due to copyright restrictions. Contains photographs which may not reproduce well.
Pub Type— Guides • C. assroom • Learner (051)
EDRS Price • MFDI/P(04 Plus Postage.
Descriptors—College Programs. *Ecology, *Environmental Education, *Jhijsher Education, *Independens Study, Interdisciplinary Approach, *Science Education, Science Instruction, Secondary Education, Social Problems, *Social Suddes Presented is the learner's guide for a luch science. Presented is the learner's guide for a high school level independent study course in environmental studies. The manual is divided into two sections. (1). The Nature of the Encironment, with lessons on ecosystems, limiting factors, interdependence and adaptation, and (2) Economic. Political, Behavioral. and Ethical Aspects of Engironmental Studies, which covers population, energy, the urban environment and ethies. Each of the nine lessons lists objectives, presents a reading assignment, discusses the readings, offers a self test, and provides a written assignment. This correspondence course is offered by Indiana University's Independent Sudy Division (WB)

ED 201 528 SE 034 924 Allen, Rodney F. Ed. Okeechobee Count) Energy Education Activities-Middle School Level. Tri-County Teacher Education Center, Sebring,

Fla. Spons Agency-Florida State Dept. of Education.

Tallahassee. Office of Environment Education. Pub Date-81 Note-96p.. Not available in hard copy due to mar-

sinal lesibility of original document. Pub Type- Gutdes · Classroom · Teacher (052) EDRS Price - MF01 Plus Postage. PU Not Available from EDRS.

Descriptors-Basic Skills. * Energy, Energy Conservation, "Environmental Education, Interdiscipli-nary Approach, "Language Arts, Mathematics Education, "Science Education, "Secondary Edueattonie "Social Studies

Identifiers-Energy Consumetton

Over 60 energy education activities related to mathematics, science, social studies, and English comprise this matural for middle school teachers. included are issues for discussion, puzzles, science investigations, story writing exercises, and energy cost calculation Problems. Among the tepies covered in these lessons are energy consumption urends, pollution problems, exergy resources, conservation strate fies, and historical perapectives on energy use. (WB)

Tummons Joice L. Former, Rosanec Geography of the Commercial Teacher Guide, OEAGLS Investigation 14.

Ohio State Univ. Columbus, Research Foundation, Spons Agency—National Oceanic and Airces-phene Administration (DOC), Reckenle, Md

Pub Date—May 80 Gran:—NOAA-04-8-M01-1*0, NOAA-04-158-44099; NOAA-NA-79AA-001*3

Note—309. For related documents, see SE 035 140-155 and ED 179 352-358 Prepared in col-laboration with the Ohio Sea Grunt Program Available from-Ohto Sea Grant Education Office.

283 Agps Hall, Ohio State Univ., 1945 N. High St., Columbus, OH 47210 (\$1.00 plus \$1.00 per order for shipping).

Pub Type—Guides - Classroom - Learner (051) —
Guides - Classroom - Teacher (052) |
EDRS Price - MF01 PC02 Plus Postage,
Descriptors—Basic Skills, "Geography, "Map Skills, Mathematics Education Mathematics In-Struction. *Measurement Proolem Solving Science Education. *Secondary Education. Social Studies. *Water Resources Identifiers—Great Lakes *Oceanic Education Ac-

tivities Great Lakes Schools, Ohio Sca Grant Pro-

gram
This unit describes four secondary school activities ties related to the geography of the Ofeat Lakes. In Activity A students develop man skills as they study the lakes Positions and associated unless these skills are applied to the St. Lawrence Scaway in Activity are appried to the St. Low refine Seaway in Activity

B. Activities C and D involve learners in solving
perimeter, area, distance, rate, time and volume
problems using the Great Lakes area for examples.
The teacher's guide includes a materials list, overcrew of the unit, objectives, teaning suggestions. evaluation items, and an answer key. The workbook is also provided. (Author WB) The student

ED 207 811 SE 035 546 Feed. Need. Greed: Food Resources & Population.

A High School Curriculum.

Science for the People. Cambridge, Mass. Boston
Chapter.

Pus Date-80 Note—1099. Numesous copyrighted cartoons removed. Photographs may upt reproduce well. Everaged by the Food and Nutrition Group Assumption—Science for the People. 897 Main St., Cambridge, MA 02139 (\$5.00 plus \$0.50 20514821

Ph Type— Guides - Classroom - Teacher (052)
LUAN Price - MF01, PC05 Plus Postage.

Ph. 1707—Consumer Economics. Developing Nations, Economics Education, "Environmental Ecucation," Food, Instructional Materials, Inter-ciscremany Approach, Nutrition, "Population Education, Science Curriculum, Science Education, Secondary Education, "Secondary School Science," Social Studies, "Teaching Guides, World Problems

World Problems
Iden: iffers Science and Society

Four units, teacher's notes, and a comprehensive source provide background information and activing aimed at raising the awareness of high school students and teachers tegarding the nature of the food system and its relationship to nutrition, population, and resources. These non-sequential units analyze the economic and Political factors sur-rounding world food and population issues. Examined are. (1) myths of overgrop ... ation. (2) quantity and quality of food eaten by underfed and overfed nations, (3), the role of large, multinational corporations in the production, eost, and distribution of afood, and (4) alternative lifestyles. Designed as a supplement to the easisting curriculum, units may be used in social studies and science classes. Informa-2.,

<u>ERIC</u> best copy available

tive charts, graphs, and illustrations are also provided. (Author/DC)

D 207 818

SE 035 590

Allen, Rodney F., Ed.
Highlands County Energy Education Activities-High School Level.

Tri-County Teacher Education Center, Sebring. Fla

Spons Agency-Florida State Dept. of Education. Tallahassec. Office of Environment Education.

Pub Date—81
Note—60p., Not available in hard copy due to marginal legibility of original document.
Pub Type—Guides—Constroom—Learner (051)
EDRS Pelce—MF01 Plus Postage, PC Not Available from EDRS.

Descriptors....*Conservation Education. *Energy.
*Environmental Education. Industrial Arts. *Inatructional Materials. *InterdisciPlinary Approach. Language Arts. Learning Activities, Mathematics. Science Education, Science Instruction, Secondary Education, Secondary School Science, Social Studies Identifiers—Energy Education

Presented are two insuractional units, developed by the Tri-County Teacher Education Center, for the purpose of educating secondary school students on Florida's unique energy problems. Unit one provides a series of value confication and awareness activities as an introduction to energy. Lan two uses mathematics exercises to examine energy consumpmathematics exercises to examine energy communi-tion. Unit three, which focuses on basic competen-cies, teaches vocabulary, writing, reading-mathematics, map, and thinking skills through ener-gy-related activities and problems. Unit four uses discussion, experimentation role Playing and simulations to examine issues at it teach problem solving. istions to examine issues at a teach problem solving, including such tories as hydrogen as a fuel costs and benefits energy poticies, air quality, and highway speeds. Included in unit five are devices which use different kinds of energy, activities for constructing a solar powered water heater, windmill, wait meter, and still. (DC)

ED, 211 388

SE 036 099

Fraser. Molite And Others
Energy Conservation Activity Gulde, Grades 9-12.

Bulletin 1602.

Louisiana State Dept. of Education, Baton Rouge.

Div. of Academic Programs; Louisians State
Dept. of Natital Resources, Baton Rouge.

Pub Date—Jan 81
Note—469p.; Contains occasional light and broken

Note-469P.; Contains occasional light and broken type.

Pub Type-- Guides · Classroom - Teacher (052)

EDRS Price - MF6I/PC19 Plus Postage.

Descriptors--*Conservation Education, *Energy, *Energy; Conservation. Education Education. High Schools. *Interdisciplinary Approach, Learning Activities. Natural Resources. Nuclear Energy, *Science Activities, Science Education. Secondary Education. *Secondary School Science, Solar Radiation

Identifiers-Alternative Energy Sources, . Energy Education

As an interdisciplinary, non-sequential teaching guide, this publication was developed to increase awareness and understanding of the energy situation and to encourage individuals to become energy conservationists. Sections provide background in-formation for the teacher followed by a variety of soudem activities using different subject areas for grades 9-12 fart, language arts, social studies, music, mathematics, science). Some of the topics included are energy in Louisiana, energy demand, energy development in Louisiana, sources of energy, solar, nuclear, and geothermal energy, fossil fpels, wind: biomass; solid waste, gasohol, conservation, and energy futures. Each activity identifies the subject area(s), objectices, materials, and procedures. glossary, listing of free and mexpensive materials, and bibliography are provided (Author/DC)

ED 213 583

SE 036 096

Sly, Carolic Rose, Larry
Environmental Education Gulde, Volume 4: An
Environmental/Energy Education Primer for
Grades Ten through Twelve, 1981-1984.
Alameda County Superintendent of Schools, Hayward, Calif., California State Dept. of Education.

Sacramento.

Pub Date—81

'Available from—Office of the Alameda County Su-perintendent of Schools, 685 "A" St., Hayward, CA 94541 (\$7.00; \$25.00 for complete set of 4 volumes).

Pub Type— Guides - Classroom - Teacher (052) EDRS Price - MF01 Plus Postage. PC Not Available from EDRS.

pre-from EDRS.
Descriptors—Conservation Education, *Curneulum Develorment, Decision Making, Energy,
Energy Conservation, *Environmental Education, High Schools, Institutions, *Interdisciplinary Approach. *Learning Activities, Natural
Resources, Physical Environment, Secondary
Education, Secondary School Curriculum, Urban
Environment Descriptors-Conservation Environment
Identifiers— California, Energy Education, Environmental Management
As one of four volumes in a K-12 series, this

teaching guide contains classroom and outdoor acuvities pertaining to the environment and energy for tenth through twelfth grades. The guide was developed based upon the understanding that environveloped based upon the understanding that environ-mental education can serve as an instructional umbrella covering many topics (conservation, ma-rine education, ciry planning, population, etc.) and that it is not a specific subject but an interdiscipli-nary theme. The activities are organized around four major topics, natural environment, built cavi-conment, social institutions and decision making. and energy and environmental resource manage-ment. Each section begins with a summary of issues related to that topic followed by a listing of major related to that topic followed by a listing of major concepts and their associated objectives. One activity is presented to teach each objective (approximately 40). Objectives correspond with those contained in the California "Course of Study" guide for 1981-84. Each activity provides a brief description, the objective, purpose, time, topics, location, materials, lead-up and preparation procedures, and following activines. Appendices list the sources for the activities, California resource agencies, and teaching materials available from these agencies. In the beginning of the guide, a Procedure is outlined for planning an environmental education program.

ED 214 794 SE 036 49
Energy Use and the Environment, Concepts &
Activities for the Classroom: Mathematics
Modules Environmental Education Supplementary Instructional Guide.

Hawaii State Dept. of Education, Honolulu. Office of Instructional Services.

Pub Date—Sep 80 Note—224p: Contains colored pages which may

Note—224p.: Contains colored pages which may not ceproduce well,
Pub Type— Guides - Classroom - Teacher (052)
EDRS Price - MF01/PC09 Plus Postage.
Descriptors—Concept Formation. "Conservation Education. "Energy. "Energy Conservation. "Environmental Education. Interdisciplinary Approach, "Learning Activities, Mathematics Education. Secondary Education. "Secondary School Mathematics School Mathematics
Identifiers— Energy Education, Hawaii
As part of a comprehensive, interdisciplinary eu-

vironmental education program for elementary and secondary education in Hawaii, this teaching guide provides a variety of energy education activities for Secondary school mathematics. An extensive into-duction outlines the total program and how it fits into the general education program and explains how to use the teaching guide which is organized around 15 core themes: energy fundamentals, evolution of energy, energy today, conservation, human dimensions, alternatives, storage and transmission systems, transportation, environmental and ecological considerations cost, energy versus population versus food, interdependence, self-sufficiency, appropriate technology, and future perspectives. Background information is provided for each theme With related objectives and concepts. In addition a first of activities and vocabulary are given. Some of the suggested occurres are presented in an elaborated form indicating subject grade, themes, objectives, concepts, competencies, other related objectives, materials, and activity and follow-up procedures. A bibliography concludes the manual.

ED 219 269 Instants from an Energy Curriculum for the Senior High Grades. Unit I - Energy Decision Making (Housing and Home Furnishings), Energy Education Curriculum Project.

Indiana State Dept. of Commerce, Indiana Polis, En-Indiana State Dept. of Commerce. Indiana Polis. Energy Group.: Indiana State Dept. of Public Instruction, Indiana polis. Div. of Curriculum.

Spons Agency—Department of Energy, Washington, D.C.

Pub Date—Apr 82

Grant—DE-F645-76CS-60038

Note—59p.; For related documents, see SE 038

775-784.

Puh Type— Guides · Classroom · Teacher (052) EDRS Price · MF01/PC03 Plus Postage. Descriptors—*Conservation Education, Decision

lescriptors—"Conservation Education Decision Making, Electrical Appliances, Energy, "Energy Conservation, Environmental Education, High Schools, "Home Furnishings, "Housing, Interdisciplinary Approach, "Learning Acustics, Lighting, Rhysical Sciences, Science Acustics, Science Curriculum, Science Education, "Secondary School Curriculum, Teaching Guides, Units of Studies."

Mentifiers... Energy Education, Indiana
Energy education units (consisting of a general teacher's guide and mne units containing a wide variety of energy lessons, resources, learning aids, and bibliography) were developed for the Indiana Energy Education Program from existing energy education materials. The units were designed to serve as an entire curriculum, resource document. supplementary materials, or as a laboratory manual of "hands-on" activities which could be infused into existing grades 9-12 curricula. Unit I, focusing on energy decision-making related to housing and home furnishings, consists of an introduction (rationale, unit objective, and general background in-formation). five lessons, unit resources, bibliography and teacher evaluation form. Each lesson includes title, objectives, background information, activities, evaluation techniques, and resources. Titles of lessons are: (1) Water Heaters and Water Usage; (2) Home Lighting Plan - Which Conserves Energy? (3) Appliance Energy Use; (4) Caulking and Weathersinpping; and (5) Windows and Energy. (Author/JN)

ED 219 270 SE 038 777 Lessons from an Energy Curriculum for the Senior High Grades. Unit II. Energy Consumption and Conservation in the Home. Energy Education Curriculum Project.

Indiana State Dept. of Commerce, Indianapolis. En-sa ergy Group.: Indiana State Dept. of Public In-struction, Indianapolis. Dev. of Curriculum. Spons Agency-Department of Energy, Washing-

ton, D.C.
Pub Date—Jan 82
Grant—DE-F645-76CS-60038
Note—70p.; For related documents, see SE 038-775-784.

775.786.
Puh Typo- Guides - Classtoom - Teacher (052)
EDRS Price - MF01/PC03 Plus Postage.
Descriptors— Climate Control. *Conservation
Education, Design Requirements, Energy. *Energy Conservation, Environmental Education,
Heating, High Schools. *Housing, Interdisciplinary Approach, *Learning Activities, Physical
Sciences, Science Activities, Seience Curriculum,
Science Education. *Secondary School Curriculum, Teaching Guides, Units of Study
Identifiers— *Energy Education, Indiana
Energy education units (consisting of a general

Energy education units (consisting of a general teacher's guide and nine units containing a wide variety of energy lessons, resources, learning aids, and bibliography) were developed for the Indiana-Energy Education Program from existing energy education materials. The units were designed to serve as an entire curriculum, resource document, supplementary materials, or as a laboratory manual of "hands-on" activities which could be infused in to existing grades 9-12 curricula. Unit II, focusing on energy consumption and conservation in the home, consists of an introduction (fationale, unit objective, and general background information), nine lessons, unit resources, bibliography, and teacher evaluation form. Each lesson includes lesson utle, objectives, background information, activities, evaluation techniques, and resources. Titles of lessons are: (1) Energy Conservation in the Home: (2) Supplemental Information, Using Wood; (3) Supplemental Information, R-Values and Uses; (4) Home Heating & Cooling - Save Energy. Save Dollars, (5) Energy Questions and Checklists. (6) Weatherize Your Home; (7) An Easy-on-Energy Home: (8) Making an Insulation Experiment Model; and (9) Energy Conservation Worksheets. (Author/JN) energy consumption and conservation in the home,

ED 219 272 SE 038.779 mannes from an Energy Curriculum for the Senior Righ Grades. Unit IV - Energy and Economics (Residential and Agricultural). Energy Educa-tion Curriculum Project.

Indiana State Dept. of Commerce, Indianapolis. Energy Group; Indiana State Dept. of Public Instruction, Indianapolis. Div. of Curriculum. Spons Agency—Department of Energy, Washington, D.C.

Pub Date—Jan 82 Grant—DE-F645.76CS-60038 Note—62p.: For related documents, see SE 038 775,784.

775.784.

Pub Type— Guides - Classroom - Teacher (052)

EDRS Price - MF01/PC03 Plus Portage.

Descriptors—Community Involvement, "Conservation Education, Energy, "Energy Conservation, Environmental Education, "Fuels, High Schools, Interdisciplinary Approach, "Learning Activities, Natural Resources, Pollution, Science Activities, Science Curriculum, Science Education, "Secondary School Curriculum, Teaching Guides, Units of Study, "Utilities

Identifiers—Alternative Energy Sources, "Energy Education, Indiana

Energy education units (consisting of a general

Energy education units (consisting of a general teacher's guide and nine units containing a wide variety of energy lessons, resources, learning aids, and bibliography) were developed for the Indiana Energy Education Program from existing energy education materials. The units were designed to seucauoti materiais. In units were designed to serve as an entire curriculturs resource document, supplementary materials, or as a laboratory manual of "handi-on" activities which could be infused into existing grades 9-12 curricula. Unit IV, focusing on energy and economics (residential and agricultural), consists of an introduction (rationale, unit objecconsists of an introduction (rationale, unit objectives, and general background information), seven lessons, unit resources, bibliographys and teacher evaluation form. Each lesson includes lesson title, objectives, background information, activities, evaluation techniques, and resources. Titles of lessons are; (1) Community Involvement in Government Rationing, Pollution - A Role Playing Lesson; (2) Wise Use of Decreasing Natural Resources; (3) Standard of Living; (4) The Need for Energy Conservation in the Home and on the Farm; (5) The Need for Energy/Conservation, Student Informs-Need for Energy/Conservation, Student Informa-tion Sheets; (6) Resources and Their Wastes - Air, Water and Soil Pollution; and (7) Fuel Consumption Checklist and E.Q. (Energy Quotient) Lesson. (Au-

ED-219 277 ED 219 277

Lessons from an Energy Curriculum for the Senior
High Grades, Unit IV Energy Conservation and
the Law, Energy Education Gurriculum Project,
Indiana State Depth of Commerce, Indiana Polis, Energy Group. Indiana State Dept. of Public Instruction, Indiana State Dept. of Public Instruction, Indianapolis. Div. of Curriculum. Spous Agency—Department of Energy, Washington, D.C.

Pub Date—Jen 82 Grant—DE-F645-76CS-60038

-29p.; For related documents, see SE 038 775-783.

/775-783.
Pub Type— Guides - Classroom - Teacher (052)
EDRS Price - MF01/PC02 Plus Póstage.
Descriptors— Conservation Education, Energy
Energy Conservation, Environmental Education, High Schools, Interdisciplinary Approach,
*Lawa, *Learning Activities, *Legassion,
Science Activities, Science Curriculum, Science
Education, *Secondary School Curriculum,
Teaching Guides, Units of Study
Identifiers— Energy Education, Indiana
Energy education units (Consulting of a general

Energy education units (consuting of a general teacher's guide and nine units containing a wide variety of energy jessons, resources, learning aids, and bibliography) were developed for the Indiana Energy Education Program from existing energy education materials. The units were designed to serve as an entire curriculum, resource document, supplementary materials, or as a laboratory manual of "hands-on" activities which could be infused into existing grades 9-12 curricules Unit IX. focusing on energy conservation and the law, consists of an in-troduction frationale, unit objectives, and general background information), two lessons, bibliography, and teacher evaluation form. Both lessons include titles, objectives, background information, activities, evaluation techniques, and resources. In the first lesson (How a Bill Becomes Law) atudents identify major factors influencing passage and/or

modifications of legislation, demonstrate an understanding of the lawmaking Process, and evaluate a law as an example of a good law. In the second lesson (Does the 55 MPH Speed Limit Save Lives?) students develop competency in £2thering data and testing a hypothesis. (Author/JN)

A Curriculum Guide for Energy Education . Voca-tional Home Economics Education. A Guide for Planning Performance-Based Energy Education in Home Economies Education Programa.

South Carolina State Dept. of Education. Columbia Home Economies Education Section.

Pub Date—Jul 82
Note—330p.
Pub Type— Guides • Classroom • Teacher (052)
EDRS Price • MF01/PC14 Plus Postage.

EDRS PRICE - MFUIT-CLA PIES FOREIGE.

Descriptors—Behavioral Objectives. **Competency
Based Education. **Conservation Education, Encesy. **Energy Conservation. **Home Economics,
Housing. **Learning Activities, Secondary Education, State Curriculum Guides, Teaching Guides,
Vocational Education

Identifiers—Alternative Energy Sources, *Energy Education, South Carolina

This guide serves as a resource for performance-based learning experiences designed to assist se-condary school home economics students in developing competencies essential for effective endeveloping competencies essential for effective energy use and management. A rationale for performance-based vocational education; definitions (explanations of the terms "competency," "performance-objective," "performance-objective," "performance-objective," "performance-objective," "performance-objective," "performance-objective," "performance-objective," "performance-time," and "learning experiences;" diagram-uilustrating relationships of the components indicated in the terms; has of 10 energy education competencies: and an outline of a conceptual struc-ture of energy education are provided in an intro-duction. The first section provides, in chart format, performance objectives, performance guides, learn ing experiences, and instructional resources related to each competency. The second section provides supplementary materials referred to under the insupplemental resources columns in the first section.

Maternals include various types of activities, readings, worksheets, and overhead transparency masters. A 27-item bibliography, annotated media listing, and evaluation form are also provided. (IN)

Canipe, Stephen L.
Riology and the Future of Man,
Pub Date-82

Note—80p. Pub Type—

SE 038 800

Note—80p.
Pub Type— Guides - Classroom - Learner (051)
EDRS Price - MF01/PC04 Plus Postage.

*Descriptors—Biological Influences, *Biology,

*College Science, Demography, Environmental
Education, *Environmental Influences, *Futures
(of Society), Heredity, Higher Education, Instructional Materials, Pesticides, Radiation, Reproduction (Biology), Science Curriculum, Science
Education, Secondary Education, *Secondary
School Science, Units of Study, Wastes
The purpose of this unit is to provoke discussion
and thought by the reader. Topics considered include cloning: amniocentesis and sex determina-

clude cloning amniocentesis and sex determina-tion: predicting abnormalities and abortion; transplants; life prolonging machines; cryogenics; traisplants, me probabiling machines, cryogentes, prenatal surfacty; sperm and egg banks; radiation psychobehavior. ESB (electrical stimulation of the brain), and mind altering drugs; cuthanasia; inequalities in care; germ and biological warfare; inequalities in care; germ and biological warfare; machine technology; human experimentation; balanced populations; green revolution (agricultural changes which have taken place over the last 25 years); greenhouse effect; ozone; noise, sewage, metals, and solid waste; and pesticides. Two tests are included, one over the entire unit and another over the content presented in the first three sections. (Author JN)

Elementary/Middle/Secondary

ED 039 138

SE 008 339

Amedorf, Val
Population Studies: A Multidisciplinary Concern. Delsware Univ., Newark.

Pub Date 16 Feb 70

hore-10p.

EDRS Price MF.\$0.25 HC Not Available from EDRS.

Descriptors—"Curriculum Development. "Ele-mentary School Seience. "Environmental Edu-cation, Instituctional Materials." Interdisciplina-ry Approach, "Population Growth. Secondary School Science. "Social Studies, Teacher Edu-cation, Teaching Techniques

focusing on the interaction between population growth and the quality of man's environment, suggestions are made for an interdisciplinary apgroach to teaching concepts and appropriate analytic tooks and attitudes for solving related problems An outline of a kindergarten through fuelith grade plan for teaching nutration is given as an example. Suggestions are made for teacher preparation, instructional materials, and teaching processes (Not available in hardcopy due to mar-ginal legibility of onginal document.) (EB)

ED 042 607

SE 009 068

ED 042 00 / Archteid, David, Ed Forceamental Education, Curriculum Teaching Activities.

Cooperative Educational Service Agency 12. Portage, Wis

Spons Agency - Bureau of Elementary Secondary Education (DHEW/OE), Washington. D.C:

Pub Date [70]

Note = 169p. EDRS Price MF-\$0.75, HC Not Available from

escriptors. Curneulum Guides. Elementary Education. Environmental Education. Instruc-tional Materials. Resource Materials Secon-dary Education

Identifiers-Elementary Secondary Education Act Title III

Presented is a curriculum guide and teaching acts the for a K-12 program is environmental education. The program is nased on forty-four important environmental solucation concepts, These concepts are sequenced according to grade level. Activities to touch grach concept are suggested The concepts are organized around the interdependency of living things. The concepts are further developed with attention to three subthemes, economies and evilure ecology, and management. The document is intended to proside teachers with concepts that should be taught th an environmental education program and to provide direction as to how these concepts may be taught. This work was prepared under an ESEA Title Ill. contract [Not available in hardcopy due to marginal legibility of original document (HB)

ED 049 917

SE 010 418

Fleetwood, George R. And Others Teachers Guide for Environmental Education North Carolina State Board of Education. Ruleigh Dept of Public Instruction Pub Date Sep 70

Note - 230p

EDRS Price MF-\$0.6\$ HC.\$9.87

Descriptors - Biolographies - Ecology Educa-tional Philosophy - Environmental Education. *Instituctional Materials *Natural Resources. Pollution, *Resource Materials. *Teaching Guides

This guide has been prepared as an aid to the teacher in organizing claseroom experiences, designed to focus un man and his environment it serves to identify resources for use in stimulating lodent interest. In broaden their comprehension and their environment, and attain conceptual understandings. The initial section, provides an orientation and definition of environmental edueation - what its goals are and how they might schieved, Subsequent sections receiving emobasis are deostatoms, natural resources, pol-

lumon, and environmental edecation making Within each area a unifying theme is selected and important concepts set furth. Each theme and group of related concepts is followed by background information. In addition, free and inexpensive books, films, filmstrips, records, tapes. broklets, units, pamphlets, and other sesources are included under each area [Page 32 is of questionable reproducibility J (BL)

ED 059 926

SO 002 251

K-12 Curriculum Guide for Environmental Edn-Colorsdo State Univ., Ft. Collins.; Poudre School

District R. I. Ft. Collins, Colo. Pub Date [70]

Note-ISSP. EDRS Price MF-\$0.65,HC-\$6.58

Descriptors—"Acuvity Learning, "Affective Objectives, "Cognitive Objectives, Community Resources, Community Study, Curriculum Guides, Ecology, Elementary Grades, "Environmental Education, Humanities Instituction," *Interdisciplinsty Approach Mathematics Instruction, *Nature Centers, *Outdoor Educastruction. Nature Centers: Octobri Evidention. Science Instruction. Secondary Grades. Social Studies. Thematic Approach a Identifiers—Colorado

This guide to environmental and outdoor edu-

cation is based on the principle that man will properly eare for his world only if he both understands and appreciates il. Seventy two multidisciplinary environmental themes are identified for instruction in grades K.12. Each theme is presented with behavioral objectives, key con-cepts, and both in school and out of school actwittes. The outdoor activaties are heavily emphasised, and designed for a local nature eenter, public parts, and campgrounds. Discriptines incorporated togethet and separately in the themes are separately in the themes sre science, social studies, math. and humanities. The guide recommends that the themes be taught in conjunction with the regular curneula, when appropriate Supplementing each theme group (K.3, 4.6, and 7.12) are extensive resource guides to films, recordings, filmstrips, pamphlets, and books. A final section presents tass and infurmation for teachers in planning outdoor experionces, such as: discretize and music for the outdoors, and how to read a compass, IDJB) themes be taught in conjunction with the regular

SE 013 661

Hamann, Julianna M.

Environmental Education, A Teacher's Guide with Inquiry and Value Seeking Strategies. Santee School District, Calif.

Pub Date [72]

Note - 265p. EDRS Price MF-\$0.65 HC-\$9.87

Descriptors - Affective Objectives, Cognitive Objectives, Conservation Education, Ecology, Ele-mentary Gradas, Environmental Education, *Fundamental Concepts, *Instructional Materials, *Learning Activities, Secondary Grades, *Teaching Guides

This guide is written to focus attention on both the cognitive and affective aspects of environ-mental education. Its format provides four levels of development: primary, intermediate, junior high, and senior high school grades, with the first two subdivided into three categories each. Per-formance objectives, teaching learning inquities, and evaluation terminal performance are outlined within each level based on three supporting concepts. These concepts emphasize interdependence in interchange of matter and energy, in social m-teraction, and in cultural components and forms. Baste ideas accentuated throughout the activities are that. (1) increased population growth creates a population pressure on the earrying capacity of our ecosystem, and (2) the consumption of goods and services per capita places an increased pres-sure on our renewable and non-renewable resources. Topies cover land, air, water, ecology, plants and animals, environment, and population and the approaches to these topics, concepts stress awareness, concern, and action. A bibliog. fraphy, agency resource list, glossary of terms, and

additional teaching learning activities are appended. (BL)

ÈD 063 989

RC.006 197

Lundstrom, Donald And Others
Environment-A Way of Teaching (Grades K-12). Alameda County School Dept., Hayward, Calif. Pub Date 71

Note-99p.

Note—99p.
Available from—Curriculum Library, Aiameda
County School Department, 224 West Winton
Ave., Hayward, Calif. 94544 (\$2.50)
EDRS Price MF-\$0.65 HC-\$3.29

Descriptors—Activity Learning, Agencies, Con-servation Education, Curriculum Guides, Ecology, Educational Legislation, Enrichment Activities, Environmental Education, Library Materials, Mental Health, Outdoor Education, Physical Education, Resource Materials, eaching Methods Identifiers-California

Resource information and ideas for curriculum programs related to the study of the environment are presented in this resource guide for elements. ry and secondary teachers. Activities in the outdoors and action programs, representative of recent district and county activities in Alameda County, California, are discussed. A list of resources, agencies, organizations, and programs, and a bibliography of library materials are also provided. The appendices include (1) the California State Education Code and (2) Federal and state laws and regulations pertaining to the environment. (NQ)

ED 064 196

SO 002 947

Brandwein, Paul F. And Others
Ekistics: A Handbook for Curriculum Development in Conservation and Environmental Edu-

California State Dept. of Education, Sacramento. Bureau of Elementery and Secondary Educa-tion.

Spons Agency-Office of Education (DHEW).
Washington, D.C. Pub Date 7!

Note—222p. EDRS Price MP-\$0.65 HC-\$9.87

Descriptors—Affective Objectives, Behavioral Objectives, Cognitive Objectives. Community Role, Concept Teaching, Conceptual Schemes, Conservation Education, Curricu-Schemes, Conservation Education. "Curriculum Development. Curriculum Guides, Ecology, Elementary Grades, Environments." Environmental Education. "Interdisciplinary Approach. Secondary Grades, Sequential Learning, Teaching Techniques Identifiers... "Ekstics Conceptual frameworks for instructional K-12 programs in conservation and curriculum entire are provided in this draft curriculum.

estion are provided in this draft curriculum guide. The objective is to help students tin-derstand cultural and social as well as physical interaction between man and his environment, interaction between man and his christonnicht, in-teraction that, in facs, makes man interdependent with, and binds him so his environment. Sequential work units are based on cognitive affective, schemes in an interdisciplinary approach involving traditional subject areas of science, health, social sciences, arts, humanities, and also stressing cial sciences, aris, humanities, and also attessing other subject areas. Although school is the catalyst for environmental education concepts and values, the learning framework extends into the community, stale, nation, and world. The draft is divided into three major chapters, in chapter one, statements of rationale, several existing a students, and an analyzed standard problem are presented. Chapter two gives conceptual outlines, including concept explications. ceplual outlines, including concept explications, and performance objectives. A discussion of planned instruction and teaching methods is provided in Chapter III. (Author/SIM)

ED 066 308 88 SE 014 436

MacGown, Richard H.
The School Site in Environmental Education. Maine Environmental Education Project. Yar-

Spons "Agency-Buseau of Elementary and Secondary Education (DHEW/OE). Washing. and Jon, D.C.

Pub Date 71 Note...31p. EDRS Price MF-\$0.65 HC-\$3,29

escriptors—Conceptual Schemes, *Design. Needs, *Environmental Education, Guidelines, *Program Development, School Planning, *Site

Analysis, Site Development Identifiers—ESEA Title III

Realizing that school sites can play an impor-tant role in enhancing the educational process. tant role in enhancing the educational process, guidelines dealing with the development of a school site for environmental education purposes are presented. First, the roles of this site for environmental studies are esplained as: (1) an ecology laboratory, (2) an environmental management laboratory, (3) a natural history interpretive area, and (4) a multiple-use school and community recreation area. Site planning is viewed as the key to effective school site design, development, and utilization. The three basic phases of planning are discussed in detail. Site Analysis gives an inventory of all factors which may influence the site; natural and man-made inmay influence the site; natural and man-made in-fluences relating to ecological, economic, politi-cal, social, technological, and aesthetic points of cal, social, technological, and aesthetic points of view. Program Development is concerned with analyzing the nature of the particular purpose or use for the site. Designiconcept Development is the graphic interpretation of how the site and program should be blended into a compatible solution. Accompanying the narrative material are examples of site analysis diagrams: a model of steps in the program development process; and examples of the schematic solution to the design examples of the schematic solution to the design problem. This work was prepared under an ESEA Title III contract. (BL.)

Bennett, Dean B Macliown, Richard H Guidelines for Planning and Implementing a Comprehensive Community Environmental Invento-Maine Environmental Education Project. Yar-

Spons Agency-Bureau of Elementary and Secondary Education (DHEW/OE), Washing-

ton, D.C.
Pub Date 71
Note=37p.
EDRS Price MF.50.65 HC.53.29

Identifiers—ESEA Title III

Descriptors-*Community Resources, Community Study. *Data Collection. Environmental Inlucnees, *Facility Inventory.

A comprehensive, community environmental inventory is viewed in this booklet as an ongoing process of investigation and study to compite and evaluate information about the natural and manmade environmental features and characteristics of an area. It is of value to the community in planning development and resolving environmenal problems and to the school in its environmenth education program, with emphasis on the in-dividual community. Section I includes general introductory trems which give an overview of the community. Section II outlines natural environmental features and characteristics. Information of this kind provides an ecological basis for making judgments about the environmental effects of human activities. The list of human crystonmental_use areas and characteristics in Section III is a reflection of these activities. Most community environmental problems will relate to one or more of these features, and in practice the stimulus for inventorying. Techniques for detecting and of these readings and in practice the stimulus for inventorying. Techniques for detecting and evaluating possible problem areas are suggested in Section IV Section W contains data useful in understanding human demands upon the environment and tauses; effects, and solutions to

ED 071 868

SE DIS 351

Total Environment Education: An Open Design to Real Life Learning Experiences.

problems Social, political, and economic aspects are considered. Sources for inventory information are compiled in Section. VI. This work was prepared under an ESEA Title III contract. (BL)

diana State Dept. of Public Instruction. Indiananulis. Pub Date 72

Pub Date 12
Note—122p., Print copy for testing effectioness.
firmat and approach. Official publication will
follow the edit of this design
FORS Price MF-50.65 BC.56.58

Descriptors-Curriculum Development, *Curriculum Guides, Elementary Grades, *Environlum Guides. Elementary Grades. *Environ-ment. *Envirunmental Education. *Fundamental Concepts, Interdisciplinary Approach.
*Learning Activities, Objectives, Secondary Gtades

Six global objectives energy, earth resources, waste disposal, population, interdependence, and quality of life-are used as a framework in preparing this open design for environmental education. which emphasizes behavioral change in the affective domain. To aid classroom teachers in achieving these goals, the guide is divided into five sections. Part I deals with the role of the leacher in the classroom situation and covers teaching strategies which recognize environmeninterdisciplinary student initiated, and communi-ty centered. In Part 2 each global objective is re-stated with specific supporting instructional objectives. For each specific objective, the grade level and subject areas initi which it may be logilevel and subject areas initi which it may be logi-cally intured are suggested. Part 3 develops several model units firt grades K-12 incorporating the instructional objectives, possible student ac-tivities, and teaching aids. Suggestionsgfor imple-mentation of an on-going environmental educa-tion program in terms of the feepingolithies in the district are provided in Part 4. The final sec-tual gives majnes and addresses of agencies and individuals who can provide free and inexpensive individuals who can provide free and inexpensive materials to supplement the ensilonmental educa-

FD 029 068

Environmental Activities, K-12 Environmental Education Program, Summer Workshop 1972.

Menomonte Public Schools, W is Spom. Agency—Bureau of Elementary and Secondary Education (DHEW/OE), Washing.

ton, D.C Pub Date 72

Note-42p, EDRS Price MF.\$0.65 HC-\$3.29

Descriptors—*Curneulum Guides, Elementary Grades, *Environmental Education, Instruc-Grades. "Learning Activities Natural Resources, Secondary Grades, Teaching Guides Identifier—Estina Title III

Representing an initial effort in activity construction, this banklet of environmental education struction. this bounded of environmental education activities was the eleveloped by teacher attending a 1972 summer workshop of the Menomenia. We consin. School District titled K-12 Environmental Education Program. The activities cover a range of subject areas-bibliogy, scrence, social studies, language, arts, mathematics, economics, art, and missis, and grade levels. K-12, although the booklet is not includes of all grade levels and subject areas. Preceding the activities is a list of environmental education concepts compiled by the teacher and each of the 38 acustites centers around one of the concepts, Organized in ters around that of the concepts, Organized in outline form, such activity defines the specific concept, discipline area, gnade level, objectives, activities to conduct, recourses to utilize (reference materials, community resources, materials resoured, etc.), and evaluation procedures it is suggested the activities be used to supplement a teacher's present correculum. modifying them for specific situations. Blank ac-ficity forms are provided for thre purpose. This work was prepared under an ESEA Vide III con-tract, (BL)

ED 080 348

SE 016 524

Herebes, John T. Ed. And Others A Cutriculum Activities Guide to Solid Waste and Environmental Studies. Project KARE, Blue Bell, Pa

Spons Agency-Office of Education toHEWI.
W49hington, D.C. Office of Environmental Education. Pub Daie 71

Grant - ORG.0-72-5105

Note - 31 2p. Available from - Institute for Environmental Education, 8911 Euclid Avenue, Cleveland, Ohio

EDRS PIR MF. SO.65 HC-S 13.16.

Descriptors - Curriculum Guides, Elementary Grades, Environment, Environmental Educa. tion, Instructional Materials, *Learning Activi-ties, Perception, *Problem Solving, Secondary

Grades, Student Research, "Wastes

This book is the first in a series of four books emphasizing student-onented problem solving related to environmental matters. It is divided into three activity levels awareness, transitional, and operational The activity sequence is designed to motivate students toward a concern for environmental quality, taxe action related to particular problems or concerns, and provide background for in-depth, on-going problem investigations Process-skill dealt with at the awareness level inelude observation of solid waste sources and solid-waste categorizing problems, qualitative comparisons, measuring the magnitude of the problem, inferring, and questioning Each activity identifies the situation and notes open ended questions, equipment needed, procedure, past studies, limitation i, and a bibliography. Transitional activities focus on real problems of the community and involve students predicting, data collection, data processing. data evaluation, and formulation of hypotheses, Economic, political, social, scientific, icchnological, and legal factors are considered. Activity forthat is the same Operational activities extend those of the first two tevels. Four approaches to problem solving are presented simulation, con-tract projects, debaing, and modeling situations. A bibliography and glossaty are appended Related documents are SE 016 525 and SE 016 614. (BL)

ED 083 004

Harthey. John T., Ed. And Others
A Curriculum Activitics Guide to In-Depth Environmental Studies.

Project KARE, Blue Bell, Pa.

Spons Agency-Office of Education (DHEW), Washington, D.C. Office of Environmental Education. Pub Date 73

Grant-OEG:0:72.5105

Note - 167p.

Available from Institute for Environmental Edu-cation, 8911 Euclid Avenue, Cleveland, Ohio 44106

EDRS Price MF.SO.65 HC.S6.S8

Descriptors—"Curriculum Guides. Elementary Grades, "Environmental Education. Instruc-tional Materials, "Investigations, "Natural donal Materials, "Investigations, "Natural Resources, "Problem Solving, Secondary Grades, Student Research

This guide is the fourth in a series of four books emphasizing student-oriented problem solv-ing related to environmedital matters it utilizes a three-level activity approach awareness, tramitional, and operational. The Intent is to provide investigations that will motivate students to pursue in-depth studies, thus encouraging them to generate ideas, design and earry through plans of action, make decisions regarding data collection, processing, evaluation, and utilitation, and determine what potential impact these findings might have on community action. In Proposing or recommending action they must consider the action and Alternatives to this action as they relate to a variety of political, economic, legal, social, scientific, and technological factors. Topies considered for the investigations include birds, weather, ferni, air quality and vegetation, and weeds Each chapter is devoted to one fopic and provides a series of investigations on that topic. An introduction and background information give mitial orientation followed by an enumeration of materials and methods, and, where appropriate, data, interpretations, and conclusions: A bibliog-raphy supplements each chapter. Related docu-ments are SE 016 524, SE 015 525, and SE 016 614. (BL)

ED 089 993

SE 017 542

Kennedy, Dave And Others Create Tomocrow Today, An Energy, Awareness Programs

Program: Washington State Board of Education. Olympia. Pub Date Mar 74

Note _ 73P. EDRS Pr PLUS_

Note—73P.

EDRS Price MF-\$0.75 HC-\$3.15 PLUS_
POSTAGE

Descriptors—Activity Units. Annotated Bibliographies, "Conservation Education. Curriculum, relementary School Science, "Energy, "Environmental Education, Guides, "Instructional Materials, Resource Guides,"



This resource guide is designed for use by teachers. Units are included on the energy crisis, envitonmental awareness, and decision making concerning shanking energy resources. Both thort-term and long-term problems and alternatives are discussed. Group and individual activities are suggested Charts and graphs, suitable for making transparencies, are included A bibliographic section describes books. films, and government publications that are pertinent to the topies. (LS)

ED 091 172

SE 017 508

Wheatley, John H. Coon, Herbert L. 100 Teaching Activities in Environmental Educa-

tion.

ERIC Information Analysis Center for Science.

Mathematics, and Environmental Education,
Columbus, Ohio. Pub Date [74]

Note-204p.: Modulo III of three modules to introduce teachers and others to environmental education, a related document is ED 086 \$41

Available from—Ohio State University. Center for Science and Mathematics Education, 244
Arpa Hall, Columbus, Ohio 4/210 (\$3.50)
EDRS Price MF-\$0.75 (C-\$10.20 PLUS

EDRS Price MF-50.75 POSTAGE

POSTAGE
Descriptors—Activity Unis, "Environmental Education, Fine Arts, Fundamental Concepts," Instructional Materials, "Interdisciplinary Approach, Language Arts, "Learning Activities, Mathematics Education, "Resource Materials, Science Education, Social Studies Identifiers—ERIC SMEAC

This package contains over one hundred activities in environmental education designed for stu-dent use in grades K through 12. Each activity has been classified by the editors according to the most appropriate grade level, subject matter, en-vironmental concept involved, and environmental problem area. Subject areas are science, mathematics, social studies, language arts, and line arts. enfironmental, eoncepts include bio-physical, socio-cultural, management, and change, and problem areas are aesthetics, health, genetics. ind Psychological/behavioral in addition to being Classified in these four categories, each activity contains (1) a statement of purpose on how the activity may be used, and (2) a reference to a source where the activity may be found in more detail or with variations, (JP)

SE 017 816 LaHart. David E., Ed. Tillis, C. Richard, Ed. Multidisciplinary Environmental Education Activi-

Fiorida State Dept. of Education, Tallahassee.
Div of Elementary and Secondary Education

Pub Date (74) Note—122p.. A related document is SE 017 815 Available from-Bureau of Environmental Educa-Johnson Building, South Duval Street, Tallahas-see, Florida 32304 (free white the supply lasts) EDRS Price MF-50.75 IIC-55.40 PLUS POSTAGE

Descriptors—Curriculum. Curriculum Development. "Environmental Education. "Instructional Materials. "Interdisciplinary Approach. Learning Activities, Resource Materi. als, Resource Units, Teaching Guides

This volume contains a series of papers which develop multidisciplinary environmental education activities in seven subject matter areas: political science, health education, language or communication arts, art, science, mathematics, and social studies. Different formats are used for Organizing the materials in each of the different subject areas. General outlines for the teacher are, provided for the political science, health educa-tion, communication, arts, maihematics, and soeial studies units. Sample materiali to be used for student activities are included for health'education (elementary and secondary levels), commu-nication arts (elementary and secondary), art (elementary and secondary), science relementa. •• (7), mathematics (secondary and intermediate), and social studies relementary). (DT)

ED 092-376 SE 017.914 Environmental Education: Strategles for Wise Use

of Energy, North Carolina State Dept. of Public Instruction, Raleigh, Div. of Science Education.

Pub Date Feb 74 Note = 75p.
EDRS Price
POSTAGE MF-\$0.75 HC-\$4.20 PLUS

POSTAGE
Descriptors...*Energy...*Environmental Education...*Intridisciplinary Approach...*Learning
Activities. Natural Resources...*Resource
Måterials. Resource Units, Teaching Guides

This publication was drsigned for teachers to use at all levels in the elementary and secondary sehools. In addition, certain portions of it could be used with adult groups. It is composed of numerous interdisciplinary instructional activities related to energy use and conservation. For convenience, the activities are grouped for grades K-3: grades 4.6, and grades 7-12. The appendix contains various items such as checklists, charts. glossary, and selected readings and films for educators. (JP)

ED 092 395

SE 017 968

Mengel, Wayne Mengel, Wayne

Entrgy, Kry to the Future. Teaching Techniques
for the Understanding and Conservation of
Energy, K-12.

Dutchess County, Board of Cooperative Educational Services. Poughkeepsie, N.Y.

Pub Date Feb 74

Nate 166

Note-36p. EDRS Price MF-S0.75 HC-S1.85 PLUS POSTAGE

Descriptors—Curriculum. "Energy. "Environmental Education. "Instruction. "Learning Activities. Resource Materials. "Teaching Guides

The teaching techniques presented in this booklet are designed to provide students with concepts which relate to the energy crisis and energy conservation. The techniques are not presented in the form of completed lesson plans. but rather are intended to act as starting points for further development by the leacher. General activities for students are suggested for the topics of conservation of energy, production of electricity and heat, social impact, political implications, economics, and geography of the energy crisis. and energy in transportation, in the home, in the school, and in the community Twenty-two projects related to the energy erists and energy conservation also are suggested. Tips on how to con-serve energy and several diagrams concerning energy topics are provided, (DT)

ED 092 437 Swanson. Carl P. SO 007 537

The Role of the Humanities in Environmental Education. Pub Date 74

Note—23p., Based on a paper presented to the AAAS Symposium, "The Relationship of the Natural Sciences, Social Seiences, and the Humanues to Environmental Education" (San Francisco, February 25, 1974)

EDRS Price MF-\$0.75 HC-\$1.50 PLUS PQSTAGE

Descriptors—Attitudes, Conservation Education, Educational Philosophy, "Environmental Edu-cation, Futures (of Society), "Humanism, "Hu-

manities, Land Use, Natural Resources, Natural

Sciences, Population Growth. "Social Sciences, Technology, Values,

The Science flood of environmental literature mourns our values and actions which have led to such predictable results. Our Value systems, making use of the available science and reehnology, have wrought changes in the land and its meaning which neither the land nor the buman spirit can accommodate with ease; crises of both an environmental and a spiritual nature are inevitable. As solutions are sought for environmental problems and attempts made to adjust our way of life to an environment finite in space and resources, the method must be a humanized one. The central image of the many-faceted individual in a kaleidoscopic environment is derived as much from the humanist as it is from the scientist and the engineer (Author/KSM)

ED 093 589

SE 016 889

Wilson, June S., Ed.
Multidisciplinary Activities for Environmental

Learning. Intermediate School District, Flint, Flich. Pub Date Jul 73 Note-242p.

EDRS Price MF-\$0.75. HC-\$11.40 PLUS POSTAGE

escriptors—Curriculum Guides, Elementary School Students, "Environmental Education, Field Studies, Integrated Activities, "Science Descriptors-Curriculum Guides, Activities. Science Education. Secondary School Students, Teaching Guides Identifiers—"Multidisciplinary Activities, Project

Identifiers—"Multidisciplinary Activities. Project CHANGE
This teacher's guide contains multidisciplinary activities written by teachers and principals in Genessee County. Michigan, in a four-day workshop sponsored by Project CHANGE. Activities contained in this publication range from elementary through high school levels, with the appropriate teaching level being indicated for each activity. Most of the activities are presented on a single page The objective of the activity, materials needed (if any), description (of what the students should do, cautions to the icacher), and related activities (if any) are provided within this space limitation. Some activities designed for this space hmitation. Some activities designed for high school students contain more detail in the form of directions, questions to be answered, or simple identification keys. (PEB)

ED 093 621

SE 017 114

Total Environment Education. Indiana State Dept. of Public Instruction, Indianapolis. Pub Date 73

Note-122p, See ED 071 868 for the Pilot Study EDRS Price MF-\$0.7S HC-\$S.40 PLUS POSTAGE

Descriptors....Administrator Guides. "Curriculum Design. "Curriculum Guides, Elementary School Students. "Environmental Education, *Integrated Curnetilum, Program Develop-ment, Secondary School Students

ldemitiers-Indiana

Presented is a description of a K-12 interdisciplinary design for environmental education programs developed by the Division of Curricuprograms developed by the Division of Curricular of the Indiana system of public instruction. The publication is designed to assist administrators and their teaching staffs in developing meaningful environmental education curricular and related activities which focus only real life extended to the content of the content and related activities which focus onyreal life experiences in the local school community Sugestions are provided for a plan to be followed in designing a K-12 intitidisciplinary program. The material is divided into seven chapters: Environmental Education. What It Is, The State Environmental Education Design, Challenge to the Environmental Education Teacher, Local School Curriculum Development and Implementation. Model Environmental Education Umis, Environmental Education Instructional Objectives, and Curriculum Resouteress. An Indiana school district. Curriculum Resources. An Indiana school district, the New Albany-Floyd County School Corporation, has implemented this curriculum district but did not have dissemination materials available at the time this publication was prepared. (PEB)

ED 102 031 Heratica, John H., Ed. Coon, Herbert L., Ed. Teaching Activities in Environmental Education.

Volume 11 - 1974.
ERIC Information Analysis Center for Science, Mathematies, and Environmental Education.
Columbus, Ohio.

Note—200p; For Volume I, see ED 091 172 Available from—Unio State University, Center for Science and Mathematics Education 244

Arps Hall, Columbus, Ohio 43210 (\$4.00) DRS Price MF-\$0.76 HC-\$9.51 EDRS DRS Price

Descriptors-*Conservation Education, *Environmental Education, "Instructional Materials, Inrerdisciplinary Approach, Learning Activities,
Natural Resources, Outdoor Education,
"Science Education, Teaching Guides
Identifiers...ERIC SMEAC

This publication is the second volume of teaching activities in environmental education designed for student use in gradea K-12. Each activity has been classified by the editors according to the most appropriate grade level, subject matter, environmental concept involved, and environmental problem area. Subject areas are science, mathematics, social studies, language arts, and line arts; the concepts include biophysic cal. sociocultural, management, and change-oriented concepts. The other classification, en-

vironmental problem areas includes aesthetic considerations reco-community tellulonships, and sychological and behavioral considerations in addition to being elastified in these four categories, each activity contains a statement of purpose on how the activity may be used and a reference to a source where the activity may be found in more detail or with variations. (Authors/TK)

SE 016 892

Hershey, John T. Ed And Others

A Curriculum Activities Guide tol Solid Wastes and Environmental Studies, Volume 4.

Institute for Environmental Education, Cleveland, Dhip.

Spons Agency-Office of Education IDHEW).
Washington, DC Office of Environmental Education

Pub Date Aug 73 Grant-OEG-0-72-5105

Note-244p.; Revised 2nd Edition. For the 1st Edition, see ED 080 348

Available from-Institute for Environmental Education, 8911 Euclid Avenue, Cleveland, Dhio 44 106 (\$6 75)

MF-\$0.76 HC-\$12.05 PLUS. EDRS Price POSTAGE

Descriptors-*Conservation Education, *Curneulum Guides, Ecology, Elementary Grades, En-vironment, Environmental Education, Instructional Materials. *Learning Activities, Natural-Resources, Poliution, Problem Solving, Science-Education, Secondary Grades, Waste Disposal. Wastes

Identifiers-Solid Wastes

This document, developed for elementary and secondary students, is one of a series emphasizing student-oriented problem solving related to environmental matters It is designed to guide others in initiating, continuing, or expanding their environmental education program. Volume 4 isintended for use by cadre who have used similar materials at a training workshop and is organized in two sections. Chapter I on awareness activities and Chapter 2 on transitional activities. Awareness activities are designed to orient students toward a concern for environmental problems and a realization that the problems are appropriate subjects for study. Process skills dealty with all the awareness level include observation of solid waste sources and components, caregorizing of solid waste problems, comparisons, measurement, inferring, and questioning. Transitional activities are directed toward real community concerns and involve the students in predicting, data collection, data processing, data evaluation, and formulation of hypotheses. Each activity identifies the situation and notes open-ended questions, equipment needed, procedure, past studies, limitations, and a bibliography A, bibliography and glossary are appended. (BT)

Resources Activity Guide. Butletin No. 1232.

Louisiana State Dept. of Education Rouge.

Report No -Bull- (232 Pub Date 73

Note-128p.

Price EDRS MF-\$0.76 HC-\$6.97 POSTAGE

Descriptors-Elementary Grades, *Environmental Education, "Interdisciplinary Approach, Learn-ing Activities, "Natural Resources, "Outdoor Education, Role Playing, Science Education, Secondary Grades, Simulation

Over the past 50 years the U.S population has shifted from rural to urban areas. Most of the stu-dents in U.S schools today live in urban environments. As a result of this, most students have litthe knowledge of natural resources and their management Since these students are the future decision-makers of the country, it is important that they have an understanding of the environment, and its interaction with all factors, natural or manimode. It is because of this concern for the futuse that this activity guide was developed. The activities in the guide include a variety of disciplines including science, math, art, communieatinns, and social studies. Designed for teachers. the guide includes a rationale for the process and mobile mobile approach to learning that is used

in these activities, and gives a detailed explanation as to its most effective usage in the development of lesson plans. Most of the activities, with some modification, can be adapted for most grade levels, though they are appropriate for older students are original form Role-playing activities and a amulation game are uncluded. A bibliography and materials list are given in the back of the guide.:(MA)

ED 106 070 ؒ

SE 018 143

Ris. Thomas F., Fil.

Energy and Man's Environment: Elementary Through Secondary Interdisciplinary Activity Guide.

Washington Office of the State Superintendent of Public Instruction, Olympia , Washington State Office of Environmental Programs, Scattle. Pub Date Mar 73

Note-130p, second revised discussion draft Price **EDRS** MF-\$0.76 HC-\$6.97 P1.UK POSTAGE

Descriptors-Elementary Secondary Education, "Energy, "Environmental Education, Interdisciplinary Approach, "Learning Activities, Natural Resources, Science Education

Energy and its relationship to the environment is the topic of this activity guide. The student activities vary in sophistication and can be used to the different grade levels, K-12. These activities are designed for correlation in the existing school corriculum and have as their objectives the feaching of skills through manipulation of materials and independent study, the shaping of puritive environmental attitudes, and the developing of an emittenmental awareness. Fach chapter in the guide concerns a new energy-environment concept and is divided must a number of objectives based on four themes-scientific, ethical, pesthetic, and utilitarian. Fach of these is further stated as they apply to the various grade levels. And finally, a listing of the activities is given (MA)

ED-107468 "SE 016 936 Learning to Get Around, An Lirban Environment Mapping Unit.

Group for Environmental Education, Philadel-phia, Pa., Pennsylvania Advancement School, Philadelphia, Philadelphia School District, Pa., Pub Date 7.1

Note—92p: Related documents are ED:045.426, SE 016 954 and 955

Available from-GEE! Group for Environmental Education, Inc., 1214 Arch Street, Philadel-phia, Pennsylvania 19707

MF-\$0.76 EDRS Price HC:\$4.43 POSTAGE

Descriptors-Conservation Education. *Curriculum Guides, Elementary Secondary Education, Environment, *Environmental Education, In-atructional Materials, Learning Activities, *Map Skills, Metropolitan Areas, *Naturat Resources, Dutdoor Education, Seience Educa-

This unit deals with mapping the urban environment. The unit is designed to help the student visualize his surroundings, read and interpret maps, and create maps. These understandings and akills are designed to help the student develop a sense of self-control and a sense of personal-control over his environment. The unit is a student oriented, auto-instructional workbook It begins with a precest and is followed by 16 lessons. The lessons increase in difficulty and involvement as the student increases his skills in understanding. reading, and drawing maps. The lessons are activity oriented, and questions are answered through means of a self-check. The fessons in clude such activities as a freesiste hunt, dfawing maps, using map symbols measuring and drawing to scale. The various maps needed for the less sons are also included A teacher guide further esplains the purpose and directions for each lesson and suggests, additional interdisciplinary activities. Completing the guide is a section dealing with aerial mapping and one dealing with neighborhood interviews (LTK)

SE 019 617 ..

Energy-Environment Source Book, Volume 12, Energy, Society, and the Environment, Volume 2: Energy, Ils Extraction, Conversion and Use.

National Science Teachers Association, Washingion, D.C

Spons Agency-Office of Education (DHEW),
Washington, D.C. Office of Environmental

Education. Bureau No-BR-0-047FPA Pub Date 75

Contract-DEC-0-74-8736

Note-270p.; For related documents, see SE 019 618 and 619

-National Science Teachers As-Available fromsociation, 1742 Connecticut Avenue, N. W., Washington, D. C. 20009 | Stock Number 471. 14692, \$4.00 prepaid)

EDRS, Peice h1F-50.76 Plus Postage, HC Not

Available from EDRS.

Descriptors-Conservation (Environment), mentary Education, Elementary mentary Education, Elementary School, Science, Energy, Environmental Education, Instructional Aids, *Instructional Materials,
*Natural Resources, Science Education, Secondary Education, *Secondary School Science
Identifiers—National Science Teachers Associa-

tion, NSTA
This source book, one part of a three-part
NSTA series on energy-environment, is written for teachers who wish to incorporate material on the complex subject of energy into their teaching This work is divided into two votumes, each with numerous tables and figures, along with appendices containing a glossary, mathematics primer, heat engine doserptions, and nuclear energy discussion. Volume I tenergy, Society, and the Environment) deals with energy and its relationship with conservation, the environment, the economy, and strategies for energy conservations. In Volume 2 (Energy, its Extraction, Conversion) and Use), topies discussed include the rate of energy consumption, future sources of energy, and the increased cost of energy (Author/CP)

ED I 1 663 SE 019 618 Marving, Kothen E Cauley, Rebecca E Energy Environment Materials Guide!

National Science Teachers Association, Washing-

Spans Agency-Office of Education (DHEW), Washington, D.C. Office of Environmental Education.

Bureau No-BR-0-047FPA

Pub Date 75

Contract -- DEC-0-74-8736-

Note-68p, For related documents, see SE 019 --617 and 619

Available from-National Science Teachers Association, 1742 Connecticut Avenue, N. W., Wathington, D. C. 20009 1Stock Number 471-14044, \$2 00 prepaid) EDRS Price MF-\$0,76 Plus Postage, HC Net

Available from EDRS.

Descriptors—Cuntervation (Environment). Blementary Education, "Elementary School "Environmental Education," mentary Education, "Elementary School Science, "Energy, Environmental Education, "Ingruetional Materials, "Natural Resources, Reading Maierials, Resource Guides, Science Education, Scenndary Education, Secondary School Science, Teaching Guides

Identifiers-National Science Teachers Associa-

tion, NSTA.

The publication one part of a three-part. NSTA series on energy-environment, is a same pling of current energy interatore. The references are divided into four separate categories, each are divided in the specific audience readings for teachers, readings for students (grades 8-10), Readings for students (grades 8-10), Readings for students (grades 8-9), and readings for students (grades K-6) Included in four appendices are guides for films and audio-visual mutelials, curriculum materials, sources of information, and government documents (Author/CP)

Smuh, Stephen M., Ed. And Othert -Energy-Environment Mint-Unit Guide.

Sational Science Teachers Association, Washington, D.C Spons Agency—Office of Education (DHEW);
Washington, D.C. Office of Environmental

Education BR-0-0475PA

Pub Date 75 Pub Date 75 Contract—OEC-0-74-8736

Note-217p. For related documents, see SE 019.

Available from National Science Teachers As-

sociation. 1742 Connecticut Avenue. N. W., Washington, D. C. 20009 (Stock Number 471, 14696, \$3,00 prepaid) EDRS Peice MF-50.76 Plus Pertage. HC Not Available from EDRS.

Descriptors—Conservation (Environment), Ele-mentary Education, "Elementary School Science, "Energy Environmental Education, Instructional Materials, Interdisciplinary Approach. "Natural Resources. Preschool Educa-

tion. Science Education. Secondary Education.
*Secondary School Science, Social Studies.

*Teaching Guides Identifiers-National Science Teachers Associa-

tion, NSTA.

This unit is one part of a thece.part National
Science Teachers Association (NSTA) series on
energy environment. The goal of this NSTA propect is to create a collection of mini-unita that provide materials for science and social attidies teachers in grades K-12. These materials are intended to make teaching more interdisciplinary and to stimulate decision making in young chil-dren. Activities are sought that will enable itudents to understand and use existing fundamental concepts in the energy-environment area, identify and evaluate personal and community practices. attitudes, and values related to energy-environment issues, and make effective decisions and/or define their views of appropriate actions of where gy-environment issues (Editor/CR)

SE 019 432

Healy, Mary K. Root, Phyllis A Beginning, Revised 3rd Edition.

Pub Date 73 Note-61p.: Prepared for the Sietra Club Conference on Education for Environmental Awateness. For an earlier edition, see ED 071 866. Occasional marginal legibility due to

--- colors used EDRS Price MF-\$0:76-HC-\$3:32. Plus Postage Descriptors Ecology. Educational Resources. Environment. Environmental Education. Instructional Materials. "Instructional Media. Learning Activities. Natural Resources. "Stu-

dent Projects

This document contains a selection of materials focusing on man acting to know, preserve, and improve his environment. The booklet is divided into three parts. Part one presents a listing of obinto tarce par art one precions a taking coor-jectives. They reflect a need for all to become aware of the problems that plague our environ-ment, Furthermore, they indicate that the ecologseal improvement of the earth is the responsibility of each and every member of society. The second of each and every member of society the second section is a description of eleven class projects which are to be adapted and used in the appropriate grade level, kindertatten through fuelve. Relevant topics include environmental laws that could be submitted to the state legislature, a conservation fair, an advertising campaign ture, a conservation fair, an advertising campaign for endangered species, a map of your locality with its environmental problems and proposed solutions, and "ecopornography" part three, the most extensive, is a directory of lesoutees. Provided are a brief description coil information, and grade level for films, filmstrips, printed materials, literature, units, texts, petiodicals, songle and games (BP)

ED [13:151]

SE 019 632

A flandbook of Environmental Egeounters.

ED [13 151] SE 019 632

A Handbook of Environmental Encounters.
Ore gon State Dept. of Education. Salem.
Pub Date 73

Note—1179.

Available from — Documents Clerk, Oregon Department of Education, 942 Lancaster Drive.
N E. Salem, Oregon 97310 (52 58)

EDRS Price MF-50.76 HC.55.70 Plus Postage
Descriptors — Ecology. "Elementary Secondary Education. "Instructional Materials, Interdisciplination."

eation. *Instructional Materials. Interdisciplina. *

eation, "Instructional Materials, interdisciplina-ry Apploach, "Learning Activities, Natural Resources, Problem Solving, "Science Educa-tion; Student Peoperts. "Teaching Guides This handbook har been designed as a leaching Jesource to be used in the development of stu-lent attitudes and competencies, reflecting an awareness of the environment, and a motivation to work foward solutions for its problems. Listed selicities are to be abanted to the affiliation and onactivities ace to be adapted to the abilities and in-lerests of students, school locale, and leaching situation. Suggested exercises consist of air, indic pollution, and, rocks, minerals, consystems it rees,

plents, marine and freshwater life, animals, population, energy, pesticides, land use, watershed management, private enterprise, student needs and perceptions, and solid waste Each of the acand perceptions, and soild waste Caen of the activities or encounters has objectives stated in
behavioral terms. The rationale for each undertaking is identified, with needed materials and
appropriate terminology. The environmental topics are divided into activities which call for some particular action on the part of students (i.e., ob-servation, collection, identification, comparison, discussion, etc.). Appraisal activities are suggested for teachers to determine the estent of learning which has occurred. The encounters have been made as flestble as possible to give them the gecatest utility. They are designed to be implemented in one or more of the curriculae. areas, and suggestions for integration are provided Printed and audiovisual materials are also listed. (BP I

ED 116 946 95 SE 020 158 Ring, Noet, Ed. Aing, Noel, Ed.

Landscapes of Vermont. A Curriculum Guide in Land Use Education.

Vermont Univ. Burlington Dept. of Geography
Spons Agency—Office of Education (DHEW).

Washington, D.C. Office of Environmental

Education.

Bureau No-74-7338 Pub Date Oct 75

Note—47p.: Photographs will not reproduce well Available Afom—University of Vermont. Geography Department, 112 Old Mill. Burlington, Vermont 05401 (\$1.00, single copies of this guide or class sets of 25 copies of the 4-page

EDRS Price MF-SQ,76 HC-S1.95 Plus Postage Descriptors-"Environmental Education. "Geog-raphy. "Instructional Materials. "Land Use. raphy, "Instructional Materials, "Land Use, Learning Activities, Natural Resources, Science Education, "Social Studies, Teaching Guides Identifiers—"Vermont

This manual is designed to assist schoolr and organizations in gaining a better understanding of land use at the community, state, and national levels. The manual emphasizes interpretation of maps and photo-imagery to analyze the geo-graphic concepts relating to landscape. The manual promotes the use of local government publications from the U.S. Geological Survey, the U.S. Soil Conservation Service, and state extension services, and the use of space photographs and satellite imagery. The manual lists projects and activities for land use atudy in social studies. and activities for fand use attidy in social studies, science, vocational agriculture, humanities, environmental education, and 4-H groups. Thorough lists of documentary materials, audiovisual aids, and other resources are included. (MR)

ED 116 947 SE 020 159 Brown, William E. Environmental Education Manual for New Mexico Teschers. New Mexico State Dept. of Education, Santa Fe.

Pub Date Nov 70 Note-73p. EDRS Price MF-\$0.76 HC-\$3.32 Plue Postage Descriptors—Conservation Education. *Curricufum Guides, *Environmental Education. Instructional Materials. Natural Resources. *Program—Development. *Teaching Guides.

gram Development Teaching Methods Identifiers—New Mesico

This booklet was prepared as a guide for New Mexico teachets for incorporating environmental education into existing curricula. The booklet begins with a discussion of the objectives of cnvironmental education and the role of schools. Brief discussions are given on the social and economic implications of environmental education. 2 single procedure to institute a program-inquity teaching methods, environmental con-ception designs, and environmental education settings: Finally, the booklet provides a list of readings, periodicals, publications, and conserva-tion organizations. (MR).

ED 121'569 SE 019 336 Energy Materials. . low a State Dept. of Public Instruction. Des Moines

Pub Date [74]-Note-127p., Pages 117-128 of the original documente entiffed . Public Interest Report-Solu-

tions to the ENERGY CRISIS." tions to the ENERGY CRISIS." are copy-righted and therefore not available. They are ...co: included in the Pagination EDRS Price MF-\$0.83 HC-\$7 35 Plus Posta#

Descriptors - Bibliographies, Confees ation Ede ation. *Elementary Secondary Educat in, *Energy, Energy Conservation, *Environmental Education, "Instructional Materials, Learning Activities, "Resource Materials

These resource materials, developed for use by teachers in the elementary and secondary schools, are designed to provide the teacher with a bibliography, questions and answeres, and suggested classroom, activities all relating to the energ) problem. The materials are designed to develop a conservation ethic and greater un-derstanding of our energy problem. The publica-tion is divided into three parts. Pael I, Energy in the Natural Environment, consists of a representative bibliography of sources concerning energy. Included are a subject index, an alphabetical list, inf of books and periodicals by title, a listing of audiovisual materials, and the addresses of the publishers of the hibbographical entires Part II, Energy in the Social Environment A Guile to Resource Maiettal, contains instructional materials designed to assist classroom teachers in developing and entiching an energy awareness unit or lesson. Part III. Possible Classroom Activities, contains an elementary, intermediate, and secondary unit on energy Additional resources filelude an energy aimulation game, the lowa Geological Survey Materials, and a listing of environmentally related organizations and their addresses. A glossary of terms concludes this publication (BT1

SE 019 380 ED 123 034 ED 123 US4

Baker Thomas M. Reiher, John F.

Equings, A Model for the Environmental Education Cureiculum for Kindergaeten Through

tion Curcivium for Kindergaeten Through Gende Twelve in Delaware's Schools.

Delaware State Dept. of Public Instruction.
Dover.: Del Mod System. Dovec. Del
Spons Agency—Nanogal Science Foundation.
Washington. D.C.
Pub Date Jan 75
Grant—NSF-GW-6703
Note—88p.: Foregelated documents. see SE 020
404-407. Occasional Marginal Legibility: Best

404-407; Oceasional Marginal Legibility: Best, copy available Available from Me, John F. Reiher, State Supervisor of Science and Environmental Education, Department of Public Instruction, John O Townsend Building, Dover, Delaware 19901 (Free while supply lasts)

EDRS Price MF-\$0.83 11C-\$4.67 Plur Postage

EDRS Price mer-avious accessors.

Dereciplors—Behavioral Objectives: Cuenculum
Development. *Curriculum Guides.

*Florentary Secondary Education; Development. Curriculum Guides.
*Elementary Secondary Education;
*Environmental Education. Interdisciplinary
Approach. Learning Activities. State Cutriculum Guides. State Programs
Identifiers. Delawate. Del Mod System. Na-

tional Science Foundation, NSF This publication repretents the reate model for This publication repretents the reate model for environmental education curriculum for kindergarten through grade twelve in Delaware's schools. The document defines environmental education, less major curriculum objectives and guidelines, and stresser the importance of the interdireiphnary approach. Four model units, representing the grade level blocks K-3, 4-6, 7-9 and 10-12, have been espanded to demonstrate the conversion of objectives into a program of the conversion of objectives into a program of student learning experiences. Each expansion includes: global objectives. instructional objectives and suggested activities for the instructional objective. The model is organized around six major global objectives dealing with energy sources. dynamics enteres deathing with cities, sources, earth resources, esource teclamation, population dynamics enterdependence and quality of life. Following each global objective is a series of insteuerional objectives for use in the development of local programs. Foe each instructional objeclive, the grade level and subject areas into which il may be infused have been suggested A bibliog. raphy concluder this publication. (BT)

ED 123 095 SE 020 775 Linder. Alise D. Environmental Education; A Source Book for Educatoca. South Carolina State Dept. of Education, Colum-Pub Date 76

20.23

Note -- 151 n EDRS Price MF-50.83 HC-58.69 Flus Postage Descriptors— *Course Content. Course Objectitives, Course Organization, *Curriculum Design, *Curriculum Guides, *Environmental Education, Instructional Materials, *integrated Curriculum, Student Centered Curriculum

Identifiers— South Carolina
This curriculum guide presents a plan to implement an environmental education program The main objective of the program is to develop enmain objective of the program is to develop environmental literacy including skills of inquiry, problem solving, managing, and communication, knowledge of environmental interrelationships, and positive attitudes and values toward environmental problems and their solutions. The program emphasizes interdisciplinary, student-centered activities. The guide begins by defining environmental education and its philosophy. A plan it outlined to division the negative recognition is outlined to develop the program: recognize a need, sell the idea, establish a committee, sel goals, develop a plan, collect information, deter-mine curricular changes, provide inservice education, pilot the project, support program, and evaluate and recycle. Program settings are discussed including the community, state and regional resources, and national sites. The major pornon of the guide discusses curricular design encompassing teaching techniques, environmental literacy objectives, and strategies and approaches for curriculum change. Teaching strategies eccom-mended included a single discipline course, multidisciplinary dourse, minicourses, enrichment, and community action projects. Finally, the guide discusses two approaches to environmental education, interdisciplinary and single disciplinary. Sample class activities are listed for each approach. The appendices are comprehensive listing resources, references, state and federal agencies, and sample units. (MR)

SO 008 629 ED 123 136 C Bullt Environment: A Teacher Introduction to Enviconmental Education.

American Inst. of Architects, Washington, D.C.

Pub Date [74]

Note = 31p.
EDRS Price MF-50.83 HC-52.06 Plus Postage
EDRS Price MF-50.83 HC-52.06 Plus Postage
Character. *Class

Descriptors - Architectural Character, *Class Activities, Cultural Context, Elementary Secondacy Education, *Environmental Education, Environmental Influences, Human Engineering, Inquiry Training, *Physical Environment, Problem Solving, Resource Materials, Social Studies Units, Spatial Relationship, Teaching Techniques

This environmental education teacher's guide focuses on the "built environment" or everything people have imposed on the natural physical directionment. The guide provides objectives and a broad definition of environmental education, sample activities, suggestions for local consultants. and resources, and an annotated list of both printed and audiovisual materials. Three general teaching approaches are recommended: (1) the teaching approaches are recommended. (1) the observing, thinking, and discovery approach; (2) the theoretical problem approach where students make environmental decisions of hypothetical situations; and (3) the "real world" situation approach where attudents examine (ca) problems which confront their community. Sample activities follow the three general approaches and include activities in local community environments. clude activities on local community environment. personal space, classroom environment, field trips, how the built environment influences feelings and senses, mapping, and measuring exercises. The guide seeks to prepare students forshapers of the built environment. (Author/DE)

ED 125 862 ' SE 019 832 Environmental Education Guide K-12. Pub Date dul 74

Ante-92p EDBS Price MF-\$0.83 IIC-\$4.67 Plus Postages

Descriptores & urriculum Guides, Elementary-Secondary Education, *Environmental Educas. "Inctroctional Materials, "Learning Actryllics. Science Activities, Science Materials, State Cutriculum Guides. This educational program intends in promote a

onwerfal seem of the environment-through interdisciplinary, across centered espeniences. The whilestisch identified are to help students examine en-tranmental relationships, acquire problem-

solving skills to analyse society's environmental problems, and develop civil responsibility and values. The guide gives suggestions and procedures for implementing the program Most of the guide contains environmental investigations for grades, k. 7 and 8-12. Each investigation lists goals and objectives, key questions, and suggested procedures to answer the key questions. The processes used in the procedures are also listed. The appendis contains an annotated bibliography of environmental education readings. (MR)

SE 020 172 Hert, Jonathan M Energy-Environment Opinionnalre. Tennessee Univ., Knoxville, Environment Center Pub Date Jul 75 EDRS Price MF-\$0.83 HC-\$1.67 Plus Postage:

Descriptors-Atutudes, Atutude Tests, Energy, Environment, Environmental Education *Environment, Environmental Education, *Environment, Resources, Opinions, *Questionnaires, Secondary Education

*Questionnaires, Secondary Education

This questionnaire is designed to assess the opinions of students and teachers of educational institutions and citirens about energy and the environment it is composed of 85 energy and environment driented statements about which the esaminee gives an opinion. Choices provided on the answer sheet given are strongly agree, mildly agree, not sure or don't know, mildly disagree, and strongly disagree. Reproduction of the exam is allowed without permission, though credit is requested A respondent information sheet is also included. (Author/MA).

ED 125 868 95 SE 020 232 Whratley, John H. Coon, Herbert L: Teaching Activities In-Environmental Education. Volume ill - 1975.

ERIC Information Analysis Center for Science.
Mathematics, and Environmental Education, Calumbus, Ohio

Spons Agency—National Inst. of Education (D-HEW), Washington D.C. Puff Date 15

Pub trate 13 Sore - 193m. For Volumes I and It of this series, See ED 691 172 and ED 102 031

Descriptors— Conservation inducation, legislanding tary Secondary, Education, forwishmental Education, firstractional Materials, Interdescription, Approach, Learning Activities; Natural Resources, Ourdoor Education, Science Education, Leaching Guides, This volume is the third in a series of learning activities designed to applicament a K-12 sepricular.

lum The activities are interdisciplinary in nature and include topics in science mathematics, social studies, language arts and fine aris Bendes a division of activities according to grade and subject matter, they are also grouped by environ-mental concepts that include the biriphysical, sociocultural, madagement, and change, and by problem areas that concern aesthetics, health, genetics, eco-community relationships, and psechological and behavioral considerations. Each activity includes a reference to the environ mental education prigram from from which it was taken, as well as it vited purpose and a methods section [MA]

95-SE:020 244 Environmental Education Handbook. Montana State Dept. of Public Instituction,

Montana state.

Helena.

Spons Agency Bureau of Elementary, and Secondary Education (DHEW OE), Washington, D. D. Pub Date Dec 72

Note 2165. EDRS Price NF-50.93 HC-514.05 Plus Postage. Descriptors - Curriculum Guides Educational Philosophy, Elementary Secondary Education. **Environmental Education, **Instructional

*Learning Activities, Natural Pollution, Population Education, Resources. Science Education

Identifiers-Elementery Scenndary Education Act Title III, ESEA Title III, "Montana This handbook is designed to help educators.

develop an environmental curriculum for their school districts. An introduction to the publication suggests (ways of-using the handbook and states a philosophy of environmental education.

Most of the remaining pages are devoted to 20 teaching cells, or units, on various grade levels,

K-12. Each unit contains an introduction and some background information for the teacher, and an appropriate activity. The topics are primarily ecological and biological in nature. Orpanic gardening, populations, and field ecology are among the topics covered Each and is designed as a starting point for the teacher and can be expanded and developed to suit individual needs. Final sections of the handbook include a listing of environmental education programs in Montana, a bibliography, a listing of resource personnel and agencies, and a survey of environmental curricula. (MA)

ED 125 883 SE 020 444 Aestheries and Environmental Education, A Multi-Disciplinary Resource for Curriculum Develop-

Wisconsin State Dept of Public Instruction,

Spons Agency—Bureau of Elementary and Secondary Education (DHEWIOE). Washington_D.C.

Pub Date [76]
Note-64p. Colored pictures and photographs

may not teproduce well
EDRS. Price 51F-50.83 MC-53.50 Plus Postage.
Descriptors—"Aesthetic Education, "Curriculum
Development, Curriculum Guides, Educational Philosophy, Elementary Secondary Education, Environmental Education, Ethics, Resource Guides, Resource Materials, Values Identifiers—Wisconsin

Educators have become increasingly aware of the complessly of mess environmental problems This scalitation has resulted in a recognition that attinges and pe handie when are a teant of gosenginemental beoplems and solutions are himselselectural of a major means for despite with all
this featuration was resource in a despite with all
this featuration was resource in a beoplement and
this featuration was resource in society's ethics and valves Efforts to descibp ensociety's ethics and valves liferts to gesslop-en-vironmental education programs have called at-tention to the fact that destreties awareness and understanding shouse form the basis by which-human beings, interpret these ethics and values that influence behavior, affecting environmental equality. The purpose of this publication is to pro-unde a philosophic point of view on aesthetics and the environment and to serve as a resource forincorporation of engionmental aestheties learn. ing experiences into any subject 1 Author/MA :

ED 125 888 SE 020 682 . Bedwell, Lance, Ed
Environmental Education Handbook for Teachers, ... Illinois State Office of Education, Springfield Pub Date [76] Note-101p; Contains same bluken and tight

Available from - Illinois Office of Education, 100
North First Street, Springfield Illinois 62777
EDRS Frier MF 80.83 II C 36.01 Plus Postage.
Descriptors - Curreculum, Design "Curreculum Guides, "Education," Environmental Education, "Environmental Education, Guidelines, Impurational Materials, Laws, Program Guides, "Resource Guides Identifiers—Illinois.

Identifiers-Ulinois-In response to the injectest in environmental, education programs in the schools; the sum of the line is has planned this thandbook as a guide for leacher deuring to descrip an environmental curriculum or to expand an extreme one. The guide presents a rationale for descriping such a program, including current environmental educations and et a plan is the same for the second of ation laws and state plans. Six steps are given the organizing an environmental education program and correction guidelines to achieve this goat at all grade Nvels, K 12, are also given in tine sec-tion of the handblook, there are sample units covering topics listed in the guidelines and incovering topics tisted in the governor contains a listing of recovering contains a listing of recovering a listing of recovering a listing of recovering developmy customarculal, discussion recogning. The handbook is designed to accumulate supplementary material when it is printed (MA)



ED 130 833 - 🕆 SE 021 182 Coon, Herbert L., Ed. Alexander, Michele Y.,

Energy lavertigations for the Classroom.

ERIC Information Analysis Center for Science.

Mathematics, and Environmental Education.

Mathematics, and Environmental Education, Columbus Ohio.

Spons Agency—National Inst. of Education (D-HEW), Washington, D.C.

Pub Date 76

Note—148p.; Contains occasional colored pages. Available from—Information Reference Center (ERIC/IRC). The Ohio State University, 1200 Chambers Road, 3rd Floor, Columbus, Ohio 43212-54-50)... EDRS Price MF-S0.83 HC-S7-35 Plus Postage.

Descriptors-Elementary Secondary Education, "Energy, "Environmental-Education," Instru-Malerials, Interdisciplinary Approach, sing Activities, Natural Resources, *Learning Activities, Natural Re *Science Education, Teaching Guides

This sourcebook, designed for use in grades Kcontains energy teaching activities related to energy accounces, production, distribution and use, Each activity has been classified by the ediaccording to the most appropriate grade level, subject matter, and energy concept in-volved. Subject areas are science, mathematics, social studies, language arts, and fine arts. This agurcebook draws heavily on ideas and factual materials found at the ERIC Center tor Science, Mathematics, and Environmental Education. The references cited in specific activities could be useful to persons interested in obtaining more activities and ideas related to energy. Many of the settivities are interdisciplinary in pature and were developed or suggested by public school teachers.

ED 134 434

SE 021 720

Benedict, Deborah And Others
Try These, We Have: Environmental Education Activities for the Trainable Mentally Retarded.

Marian Coll, indianapolis, Ind Spors Agency—Office of Education (DHEW). Washington, D.C. Office of Environmental Education.

Pub Date [76] Grant-OEG-0-74-7370

Note-143p.; Some pages primed on colored paper may be marginally legible: Materials prepared in the Outdoor Ecological Laboratory, Marian College

Available from-Dr. Dennis E. Clark, Director. Available from—Dr. Dennis E. Giark, Discouding Register St. December 2000 Cold Spring Road, Indianapolis, Indiana 46222 (no price quoted).

EDRS Price MF-\$0.83 HC-\$7.35 Plus Postage.

Descriptors—Attention Sprin, Elementary

Descriptors-Attention Spin, Elen Secondary Education, Environment, pronmental Education, Exceptional Children, *Instructional Materials/ Language Arts. Mathematics. *Mentally Handicapped, Perceptual Motor Coordination, Sciences. *Teaching

These environmental education materials include both out-of-classroom and in-classroom expertences The activities emphasize seven major goals including language skills, number skills, soceal skills, motor skills, science, and attention span. There are eight coded topical areas: 61) air. (2) animals, (3) games, (4) light; (5) plants; (6) seasons; (7) soil; and (8) water. Each topical area contains a variety of activities related to the general theme. The activities are described on separate eards and are written for the teacher. Each card contains the following: (1) a title; (2) a purpose; (3) suggested directions; (4) a majerials hat, and (5) hints and instructions for the teacher. The materials were tested with trainable mentally retarded students. (RH)

ED 135 648

. SE 022 13.1

Cripe, Julie, Ed. - Wright, Joe, Ed. Project SAVE. Student Action for Valuing the Environment

Indiana State Dept. of Public Instruction, India. a napolis.

Spons Agency-Environmental Quality Control. the Indianapolis Ind. . .. Pub Date (77)

Note-33p : Oceasional photographs may not reproduce well EDRS Price MF-\$0.83 II C-\$2.06 Plus Postage.

Descriptors-Ecology, *Elementary Secondary

Education. *Environment, *Environmental Education, Interdesciplinary Approach, Pollu-tion, Problem Solving, Program Descriptions, Student Project

Identifiers - Indiana, Project SAVE
Project SAVE I Student Action for Valuing the Environment) chequitages a team approach to solving environmental problems. SAVE suggests that students initiate, crease, and implement practical approaches to solving community environdescriptions (of 13 caemplary programs that include elementary schools, middle schools, a junior high school, and high schools. Also included are a list of suggestions for community projects and resources available to assist in problem solving. (RH)

ED 137 140

SE 022 429

Coon, Herbert L. Bawman, Mary Lynne Environmental Education in the Urban Setting: Rationale and Teaching Activities.

ERIC Information Analysis Center for Science, Mathematics, and Environmental Educatio Columbus, Ohio.

Spons Agency—National Inst. of Education (D. HEW), Washington, D.C..
Pub Date 76

Note--- 199p.

Available from-Information Reference Center (ERICARC). The Ohio State University, 1200 Chambers Rd., 3rd Floor, Columbus, Ohio 43212 (\$4.00).

EDRS Price MF-\$0.83 HC-\$10.03 Plus Postage. Descriptors-Curriculum, *Etementary Secondary Education. • Environment, · En viron mental Education, Instruction, *Instructional Materials, Resource Materials, Teaching Guides, *Usban Studies

This document has two parts. Part I is a sationale developed to present a point of view about the opponunities for environmental educanon in urban schools. The premise is that environmental education should be a vital part of the total school program. Part II, Teaching Acthe total sensor program. Far it, reaching Activities, contains ideas and suggestions for implementing such a program. The activities are designed for student use in grades K-12. Each activity has been classified according to the most appropriate grade level, subject matter, environmental concept involved. and environmental problem area in addition to being classified in these four categories, each activity contains: (1) be used, and (2) a reference to a source where the activity may be found in more detail or with variations. (Author/RH)

ED 138 436

SE 020 918

Thresher, William And Others ... K-12, Interdisciplinary Environmental Education. Broward County Schools, Fort Lauderdale, Fla.

Spons Agency—Bureau of Elementary and Secondary Education (DHEW/OE). Washington, D.C. Pub Date May 73

Note-50p. Contains occasional marginal legibility

EDRS Price MF-\$0.83 HC-\$2.06 Plus Postage. Descriptors—"Curriculum, Curriculum Guides,
"Ecology, "Elementary Secondary Education,
"Environmental Education, Instructional Matenais, Natural Resources, Politicional Identifiers—Elementary Secondary Education Act
Title III, ESEA Title III

This made is described to security environmentary

This guide is designed to assist curriculum dovelopers, subject area specialists, and teachers in identifying environmental activities and learning aids appropriate for various grade levels. The guide attempts to integrate all grade levels by goide, attempted to integrate an grade never my using the same conceptual scheme throughout the pamary, intermediate, middle, and secondary levels. This conceptual scheme includes aix major statements, [11] living things are interdependent with one another and their environment. (2) all organishs, are integrated discust matter, and content (3) the environment of the property. equalisms, are therefore, with united resources, and (6) the available technical submitted resources. victinmental publicus must be implemented. Topies are listed uniter each environmental statement for each grade level thus obtaining continuity in the total program. (MR)

ED 138 527

SO 010 002

Holtgrieve, Donald G. Mathiason, Carol eld Trips in Geographic Education: An An-notated Bibliography. Instructional Activities Series LA/G-L

National Council for Geographic Education,

Pub Date 75

Note 15p.

Available from National Council for Geographic Education, 115 North Marion, Oak Park, Illinois 60301 (\$1,00 paper cover)

EDRS Price MF-\$0.83 Plus Postage, HC Not Available from EDRS.

Descriptors- Annotated Bibliographies, Studies, Class Activities, Community Study, Disadvantaged Youth, "Educational Methods, Elementary Secondary Education, "Emeronmental Education, "Exceptional Children, Elementary Secondary Education, Emirron-mental Education, Exceptional Children, Field Trips, Geographic Regions, Geography Instruction, History, Instructional Trips, Learning Activities, Retarded Children

Elementary and secondary school teachers can use this annotated bibliography to obtain information for planning, conducting, and evaluating field trips. It contains 125 references to journal articles and reports, most of which published during the period 1960-75 Each entry provides author's name, title, source, date, and a one- or two-sentence annotation. Most of the Items annotated have reference to geographic and environmental content at all school grade levels from one to 12 There are references to belo the beginning seacher plan his or her first field inp. Several entries suggest safety tips for teachers students, and bus drivers while traveling Most of the references describe ideas for average classes, but at least five references are aimed specifically at retarded, economically disadvantaged, or ex-ceptional children. Some describe local field trips vithin the community or state; others explain how long-distance, overnight trips can be planned Observation guidelines for students are given, and follow-up activities might include drawing the most interesting things seen on the top. A few entries describe aenal field trips, which are especially well suited to geographic study of particular regions. (AV)

ED 141 081

SE 022 539

Kahuth Barbara J. Marsh, Bovd T An Educational Guide for Planning an Improved

Human Environment Cleveland Dept. of Public Health and Welfare.

Puh Date 74

Note-291p. Not available in hard copy due to copyright restrictions, Contains occasional light Available from-Inner Steele Press, Inc., Hudson,

Ohio 44236 (no price ounted).
EDRS Price MF-\$0,83 Plus Postage. HC Not

Available from EDIS.

Descriptors— Community Problems. Conservation Education. Consumer Education. Curriculum Guides. "Elementary." Secondary Education, Environment. Environmental Education. Health Education, Instructional Materials, Learning Activities, Teaching Guides, Units of Study

This guide contains a curriculum Jeatunng learnings and activities concerning environmental health of the home, neighborhood and sugar There are six main sections to this goale (1) hespirics containing sections on point wastes, would, radiation, air, water, shelter, and chimicals 12) Environment containing sections on positive and negative aspects of the environment, the environ. mem's effect on people, gubic properties, and vandalism; (J) People, containing rectors on apathy, fatalism, and coltural arts and environment; (4) Cooperative Action containing see. and ... tions dealing with the responsibility for gooperative action by community agencies. (51-Consumerism containing sections on product safety Conservation containing sections though the selutionships between resources, life styles disenses, and the vanous alternatives available to us: Each section has learning statements, learning reinformation, the application of the activity to the. . local community, a socabulary fixto a list of unit

materials needed and appropriate supplementary films, books and resource materials, (Author/AJ)

ED 141 116 ·

SE 022 619

Dwens, Alichael Activities in Environmental Education, Environ-

mental Studies Program. Educational Personnel Development Consortium

D. Richardson, Tex Spono Agency-Office of Education (DHEW). Washington, D.C.

Pub Date 1771 Grant-G007601990

Note-95P. Contains occasional colored pages

that may not reproduce well

EDRS Price MF-50.83 HC-\$4.67 Plus Postage.

Descriptors—Conservation Education. Educational Games. Elementary Grades. *Environmental Education. Games. *Intractional Materials *Lenring Activities, *Secondary Grades, *Teaching Guides

Identifiers-Environmental Studies

This guide describes 38 activities appropriate for grades k-12 Each activity contains a brief description of the activity and a list of materials needed. The second section of the guide contains environmental learning games to be played in the classroom. These games include crossword putand find-a-world. All of the games listed may be reproduced There is a list of free materials available on trees. Wood products, and paper making (AJ)

ED 141 178 SE 022 707 Schultz, Judah M. Cont. Herbert L.

Population Education Acriviles for the Classroom. ERIC Information Analysis Center for Science. Mathematics, and Environmental Education.

Spore Agence Sational Internal Education (D-HEW), Washington, D.C.

Pub Date Inn 77

ine-195p.. Not available in hard copy due to marginal legibility of original document

transplie from Information Reference Center (ERICARCA, The Ohio State ChiceNie, 150t) Chambers Rd., 3rd Floor, Columbus, Ohio Chambers Rd 43212154 (0)

Price MF-\$0.83 Plus Postage, HU Not Available (gom EDRS.

Descriptore—Dennigraphe, "Elementary Secondary Education, "Environmental Education, *Instructional Materials, Interdisciplinary Approjeh. *Learning Activities. *Pupulation Edu-cation. Science Education. Social Sciences. Teaching Guides

This document contains a series of population learning activities designed to supplement a k-12 curriculum. The activities are interdisciplinary in nature and include, topies in science, mathe-matics, social studies, language aris, fire arts, and home economies. Doudes a diction of actiones according to grade and cutgeer matter, the acresties are also grouped by population concept. Each activity includes a reference to the environmental education program from which at was taken as well as a stated purpose and methods section. Also included in this publication are prepost facinal and artifudinal jests, a hasic glossary of population terms, and an annotated het of resource materials that includes: teaching materials, background readings for teacher and student. readings for students to grades 3-12, audito-cisual materials and their sources, and rental informa-

ED 144 332-EC 102 455

Tully, Randolph R. Jr., Ed. A Curriculum Aerivitirs Guide to Environment Studies with Students with Special Edization

Needs. Montgomery County Intermediate Unit 23, Blue

Spons Agency Office of Education (1)HEW). Washington D C S

Grant-OEG-71-1775

Note-127p, information concerning this publicution may be obtained from Traject KARE. Colony Office Building, Brune 73. A. Butter-5. Pike, Blue Bell, Penns, kand 1942.2. EORS Price 33F-5033 HC-57.35 Plus Postage.

Descriptors-Aestheric Education. Air Pollunon

Control. Animal Science, Curriculum Guides, Elementary Secondary Education, "Environ-mental Education, "Handicapped Children. *Learning Activities, Natural Resources Playgrounds, Soil Conservation Teacher Developed/Materials Leacher

Developed by teachers, the curriculum guide procedure internation on encironneital cludica activities for use with handicapped students. Acbettee are divided into three areas awareness level activities (alecthetics, cometeries, water, soil, air, noise, and muscellaneous activities i transition level activities (playgrounds) conclunes, wildlife, and insectionerus actionees and operational level actionee (site development, cristion, and soil). Such activities as categorizing living and soil hong things playground planning, and ofting a problem crosson are included. Outlined for each activity are an introduction, questions, equipment needed, and procedures. A final sechim consists in teacher statements on activity implenioniation. Appended are a paper on the U.S. Office of Education national diffusion network, and explanation of environmental etudies activitick and technical reports on as of the activities included in the guide (SBH).

SE 023 051 Environmental Education for Teachers and Resource Prople.

Forest Service (DOA), Washington, DC Pub Date [77]

Note-286p. Not available in hard copy due to marginal legibility of original document EDRS Price MF-\$0.83 Plus Postage. HC Not

Available from EDRS.

Descriptors—"Curriculum Development. "Elementary Secondary Education. "Encurunmental Education. Instructional Materials. Learning Activities. Lesson Plans. Science Education. "Teaching Guides Teaching Guides

This document is a guide for teachers and community resource personnel injerested in developing an environmental education program book is divided into seven parts (1) Process and Problem Solving Approach to Learning, 42) Lesson Plans for Encironmental Investigations, (3) Simulations. (4) Developing Environmental Investigations, (5) Group Involvement Techniques. (6) Entronmental Education Action Plan, and (7) Miscellaneous Activities. The environmental investigations include topics such as water qualite, ecological relationships; and fund use, and are designed for students in grades K-12. Citidelines are included for the preparation, execution, and post-discussion of these meesingations Simulations concerned with land use and community action are included along with guidelines for developing further simulations. The action plan section gives directives for organizing an environmental education committee and school currieulum. (MA)

ED 144 826 SE 023.119 McCabe, Robert II., Ed. And Others
Man and Environment Teaching Afternatives.

Miami-Dade Community Coll., Fla.: Ohio State

Univ., Columbus, Ohio. Information Reference Center for Science, Mathematics, and Environ. mental Education.

Spons Agency—Office of Education (DHEW), Washington, D.C. Pub Date Iun 77

Note-336p. Available from-loformation Reference Center (ERIC/IRC). The Ohio State University, 1200 Chambers Rd., 3rd Floor, Columbus, Ohio 43212 (\$6,00) EDRS Price MF.\$0.83 HC-\$18.07 Plus Postage.

Descriptors—*Curriculum Guides, Elementary Secondary Education, Energy Conservation, *Environmental Education. - *Instructional Materials, Interdisciplinary Approach. *Learning Activities. *Science Education. Values Identifiers—Man and Environment. Miami Dade

Community College FL

The material contained in this document is the rouli of an Education Professions Development is the festil of an Education Professions Development Act Grant awarded to Mismi-Dade Itanor Callege for the fiscal year 1972/Much of the material, was developed in a two-week teacher training workshop held in July. 1972, in Mamil Beach, Florida, in this session, 46 facility members from across the country, consultants, and workshop staff contributed initial input for this document. The material in this book is intended to expand

the format of the "Man and Environment Revised Curnculum" by making this more useful for teachers to teach the various topics. Over 30 topies are covered in the publication, including value systems, poliusion, population dynamics, and economics Every topic is then subdivided into alternatives. Each alternative is composed of an overview containing background information on the topic, the busic concept to be learned, student learning objectives, and teaching/learning strategies. Contained within this book are a multitude of ideas about how elementary, and secondary grade teachers may present the modular topics of Man and Environment in an interdisciplina-ry framework. The book is designed as a supple-ment to other Man and Environment and ecologient materials. (Author:MA)

ED 148 594 SE 023-427 Kennedy, Thomas G , Ed Hernbrode, William

Teachers Resource Guide for Environmental Edu-

Arizona State Dept of Education, Phoenis

Pub Date [77]
Note—338p; Not available in hard copy due to colored pages throughout entire document EDRS' Price MF-\$0.83 Plus Postage, HC Not

Available from EDRS. Descriptors—Curriculum Goldes, *Elementary Secondary Education, *Environmental Education, "Instructional Materials, "Interdisciplinary Approach. *Learning Activities, Najoral Resources, Resource Materials, Science Ruca-

tion. Teaching Guides, Values
This guide is divided into seven major sections. each representing one of the following fundamental natural resources, (1) soil, (2) air, (3) water. (4) vegetation, (5) wildlife, (6) minerals, and (7) Within each of the seven major sections. there are three subsections which provide the following. (1) Background Information. (2) Suggestions and Activities, (3) Additional Resources The guide is designed as a basis for developing a sound environmental ethic among students in grades K.12. It represents a resource of informaition, suggestions, and activings for supplicitioning an esisting curniculum. The activities are appropriate for several disciplines, including science, mathematics, social studies, fine arts, language arts, and industrial arts and vocational education. Some illustrations are (Author/MA)

SE 023 976 ED 150 026 Price. Charles L. Coon, Herbert 1.

Water-Belated Teaching Activities.

ERIC Information Analysis Center for Science. Mathematics, and Environmental Education, Columbus, Ohio

Spony Agency-National Iosi of Education IDHEW I, Washington, D.C. Pub Date Jun 27

Now -- 156p.

Acadable from Information, Reference Center (ERIC/IRC), The Ohio State University, 1200 Chambers Rd Card Floor, Columbus Ohio 43212 154 00r

EDRS Price MF-\$0.83 HC-\$8.69 Plus Postage. Descriptors - Elementary Secundary Education.
*Environmental Education. Instructional *Engirenniental Education. Materials, Natural Resources Pollution, Science Activities, Science Education, "Social Studies, "Water Resources, World Printlems,"

This publication is designed to provide interested teachers with teaching activities for all grade levels and subject areas that can be used to help students learn about water resources. For each activity, the purpose, level, subject, and eoneept are given. Activities are organized by grade level, Most of these water related learning activities are science 1771 or social studies (46) activines with several mathematica, art, language and, and music activities included In general, the activities involve, the students in investigations to answer given questions designed to stimulate student thought on water use and management. A section is also included that contains lists of films. filmstrips, addresses of film distributors, and water testing equipment and manufacturer's addicises. (NIR)

SE 024 054 ED 182 541 Roseman, Mary Lynne Dinnger, John F. Land Lee Shinagement Activities for the Classfoom.



ERIC Information Analysis Center for Science. Mathematics, and Entironmental Education.

ports Agency - National Inst of Education (DHIW), Washington, D.C.

Pub Date Jun 27

Sinte- 265p. Contains occasional light and broken type

Austable from- Information Reference Center (ERIC.IRC), The Ohio State University, 1200 Chambers, Rd., 3rd. Floor, Columbus, Ohio 43512 (55 th))

EDRS Prier MF-\$0.83 flC-\$14.05 Plus Postage.

Descriptors... "Class Activities, Classifion Materials, Consertation Education, Elementary Secondary Education, "Environmental Education. 'Land Use, Management Education, Activities, Seierce Science Education. * leaching Guides

The activities included in this publication were relected and developed to give teat hers ideas and enumpies of wass to implement land use management instruction in the classroom. One of the primary ubjectives of this compilation is to demonstrate that there is now in existence a saffety of materials that them on land use concerns. The activities, designed for student use in graces k through 12 are "action-oriented" and involve student panicipation throughout the school community Each actions has been elassified by the authors amoraing to the most appropriate grade level subject matter and land use concept tosubject. In addition in being classified in the configures, cash activity contains (1) the statement of Purpose on how the actions may be used, and (2) a reference to a source where the activity may be found in more detail or with carrations The subject areas encompassed by these activities include science, mathematics, social studies, language arts, and tine any Some typical activities are planting trees countring soil, and discussing newspaper articles. (Author/BB)

SE 024 209

Ponthuma, Fridrick E., Ed Energy and Education: Teaching Alternatives. National Education Association. Washington. D C. Pub Date 78

Note-142p. Not available in hard copy due to copyright restrictions

Available from - National Education Association, 1201 Sisteenth St. N.W. Washington, D.C. 20036 (Stock No. paper 1492-8-00, no price

quoled | EDRS Princ MF-\$0.83 Plus Postage; HC Not

Avaitable from EDRS. Pescriptors Activity Units. "Conservation Edu-cation. Energy. "Energy Conservation. "Environmental Education. "Especiental Conservation. Learning, Interdisciplinary Approach, Lesson Plans, Natural Resources, "Science Activities.

tion Association

This publication is a collection of energy edueation articles for the classroom teacher. Most of these articles suggest energy education activities and projects that may be used as is or modified to fit classroom conditions. Two energy mini-onits are included as well as a collection of energy tesson plans. Contents include: (1) Teaching About the Nucleus Power Controverse by Simula. tion, (2) Our School-Made Solar Project, (3) Six Ways to Reduce Energy Consumption. (4) Lei-sure and the Energy Crisis, (5) Sonte Guidelines for Energy Programs, (6) Unergy Teaching Cenrers. (7) Which Source of Energy is Best for Heating My Community. (8) Energy and Its Natural Sources, and (9) Energy Resource List. Many of the articles also include student or teacher resource lists as well as activity sug-gestions and informative tests. A rationale for energy education is presented in the first antele. Drief descriptions of each article are slso included (CS) .

ED 156 463

SE 024 391

Davis, Dibbit And Others Environmental Education Resource Guide. Montgomesy County Public Schools, Rockville,

Pub Date [78]

Note-55p. Not available in hard copy due to small print throughout entire document EDRS Prire MF-\$0.83 Plus Postage, HC Not

Available from EDRS.
Descriptors—*Educational "Resources. *Elementary Secondary Education, Conservation, *Environmental E Energy Conservation, *Environmental Education, *Information Sources, Natural Resources, Pollution, Population Education, *Resource lution. Population Edu Guides, Science Education

While this guide was designed specifically for teachers in Montgomery County, Maryland. Schools, much of the material can be used by individuals nationwide. Contents include nature studies, pollution, energy, land use, environmental design, recreation, and government and the public aspect. Resources listed under these headings include films, textbooks, multimedla materials, guest speakers, and environmental units. Attempts have been made to list materials appropriate to grades. K-12 and to Isbel them aceording to age or grade levels. Further seesions of the guide list organizations, newsletters, periodieals, and guides having to do with the environ-ment. The formst of this publication is in the style of the Whole Earth Catalog, having illustrations interspersed among the columns of resource materials. Where possible or appropriate, a brief description of the materials is included (MA)

ED 156 473 SE 024 425 Environmental Education Resource Guide. Rhode Island State Dept. of Education.

Providence.

Spons Agency—National Inst of Education (DHEW), Washington, D.C.
Pub Date Jan 28

Grant.... NIE-G.76.005\$

Note—131p. Contains light and broken type Available from—Dissemination Umit. Rhode Island Dept. of Education, 22 Hayes St. Providence, RI 02908 (no price quoted) EDRS Price MF-\$0.83 HC-\$7.35 Plus Postagr.

Descriptors - Annotated Bibliographies. Educs tional Resources, "Elementary Secondary Edu. • Environmental *Instructional Materials, Natural Resources, **
*Resource Guides, *State Departments of Edu. **

- Rhode Island

To help meet the needs of Rhode Island teachers for useful environmental education materials, the Dissemination Services Unit of this state's Department of Education compiled this resource guide. The entries in this document are available either from ERIC or from the Dissemination Services Unit. A brief document description is given under most entries. This publication lists documents according to their grade level focus so that documents are eategorised under general elementary, secondary, and K-12 headings. Other sections list journs! articles, bibliographies, other information sources such as perodicals and films, and state sources. Documents cover many environmental education topies such as population, land use, outdoor classrooms, field rrips, ecology, and environmental education curriculum development. A separate resource guide has been developed for energy education. Although emphasis is given to Rhode Island environmental education, this guide can be of use to educators nationwide (MR)

ED 157 768

SE 024 770

Hammond, W., Ed.
On Campus Teaching Activity Guide: Eaviron menta L'Education. Lee County Schools, Florida State Depr. of Education, Tallahassee, Of-

fice of Environment Education.

Pub Date 74 Note-178p.; Not available in hasd copy due to

marginal legibility of original document EDRS Price MF-50.83 Plus Postage. HC Nat Available from EDRS.

Biological Descriptors-An. *Elementary Secondary Education, *Environmental Laucation, Home Economics, *Instructional Maierials. Interdisciplinary Ap. prosch. Language Arts. Mathematics, Phyrics I Education, Sciences, Social Studies, Special Education, Teaching Guides

This booklet presents a vasiety of environmen-tally oriented activities that may be used on school sites, many interdisciplinary in nature. The activities are cross referenced according to two separate indea systems. [1] By discipline area, and (2) by topic. Discipline areas include Language Arts, Mathematics, Science, Social Studies,

An. Home Economics, Physical Education, and Special Education Examples of topics are acorns. age, ants, are, attitudes, averaging, clouds, colages, ants, art. attrudes; averaging, crouss, collages, diatons, descriptive words, government, bisku poetry, insecis, and wilderness survival. Due to the flesibility of many of the scrivines within this booklet, specific grade levels are nor designated. The activities are appropriate for kindergarten, elementary, middle, and high school students. (Author/RM)

ED 157 773

SE 024 775

Tillie. Richard
Auti-Litter Cuericulum Packet, lutereiffelplinary,

Flonds State Dept. of Education, Tallahassee, Office of Environment Education.

Pub Date 72

Msterisis, "Poliution, "Visual Aids, "Waste Disposal

This curniculum packet consists of 20 illustrated cards with 15 activities designed to create positive feelings" about a clean environment Activities range from picture coloring for younger students, to lessons such as the economic and health problems litter creates for older students. Objectives include encouraging anti-litter and anti-pollution attitudes, understanding the methods and problems of solid waste disposal. understanding the environmental costs of producing paper, and using art education skills to produce "GlennaGhittet" posters, trash can steneils, and costumes. (Author/RH)

ED 159 075 SE 024 956

Bowman, Mary Lynnt, Comp Coon, Hithett L., Comp.

Recycling: Activities for the Classroom

ERIC Information Analysis Center for Science.
Mathematics, and Environmental Education. Columbus. Ohio

Spons Agency... National Inst of Education (DHEW), Washington, D.C.
Pub-Date Apr 78

Note—145p. Not available in hard copy due to small print throughout entire dneument Available from—Information Reference Center (ERIC/IRC). The Ohio State University, 1200 Chambers Rd. 3rd Floor, Columbus. Ohio 43212 (\$4.50)

EDRS Price MF-S0.83 Plus Postage. HC Not Available from EDRS:

Descriptors—Curriculum Enrichment, Ecology,
"Elementary Secondary Education, • Environméntal Education. *Instructional Materials. Interdisciplinary Activities, Natural Approach. Resources. Activities/ ·Learning

Recycling Science Education
This publication pranties 80 classroom activities for the teacher rices activities are designed for elementary through high school students and are enjoy-oriented for participation in the school community. Each activity is classified according to appropriate grade level, subject matter, and recycling concept involved. In addition, each ac tivity includes a statement of purpose, a reference to the source of the original activity, and a set of procedures Some illustrations and sample work sheets are provided. The final section contains resource information on publications, organiza-tions, and films related to recycling and environmental education. (MA)

ED 162 897

SE 025 423

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Hembrodt, William R., Ed.
Multidisciplinary Wildlife Teaching Activities. ERIC Information Analysis Center for Science.

Mathematics, and Environmental Education.
Columbus, Ohio

pons Agency-National Inst. of Education (DHEW). Washington, D.C.

Pub Date—Jun 78 Note—95p.

Available from—Information Reference Center (ERIC/IRC). The Ohto State University, 1200 Chambers Rd., 3rd Floor, Columbus, Ohto 43212

EDRS Price MF-50.83 HC-54.67 Plus Postage.
Descriptors - Att Education. *Conservation Education. English Education. *Environmental Edueation, Industrial Arts, Mathematics Education.

Md.

Natural Resources, "Natural Sciences, Science Education, Social Studies, "Wildlife Manage-Education. ment, *Zoology Bentifiers-Wildlife Education

This guide provides information and activities descriptions designed to allow the teacher to use wildlife concepts in the teaching of various subjects. The author suggests that wildlife and animals are tremendous motivators for children and hold their at-tention. In the process, concepts of wildlife interaction with man and the environment are taught along with the major subject. The guide does not presuppose an extensive knowledge of science. In addition to activities and concepts tailored for a variety of classroom subjects, the guide provides a history of American wildlife, a presentation of basic concepts of wildlife education, and a bibliography of field guides, activities, life histories, and periodicals of interest to the classiform teacher seeking to use their technique (RE)

SE 025 258 Priddy, Michael D., Ed. And Others
Energy Conservation Education Resource Guide Guilford County School System, Greensboro, N.C. Spous Agency-North Carolina Dept. of Com-Spons Agency-Pub Date—Jul 78
Note—175p.; Some colored pages may not reproduce well

EDRS Price MF-\$0.83 HC-\$8.69 Plus Postage.

Approach, *Learning Activities, Natural Resources, Resource Guides, Science Education Identifiers—North Carolina (Guilford County)

Although designed as a resource for teachers in the Guilford County-North Carolina School System this guide out to information and included. tem, this guide contains information applicable to most K-12 curricula. There are five color-coded sections, each devoted to specific grade levels. K-3, 4-6, 4-9, 10-12. The Appendices include field trip possibilities, an energy use checklist, and illustrations. sibilities, an energy use checklist, and illustrations. Each grade level section contains energy concepts, related activities, and resources for the teacher. There is an annotated bibliography containing entries for all resources listed at the end of each section. This resource guide is not intended to provide an exhaustive list of concepts, activities, and resources, but rather is a working tool to be amended and modified by teachers. An interdisciplinary and integrated approach is used throughout the guide. integrated approach is used throughout the guide.

ED 166 016 SB 025 412 Davey, Don McDuffie, Claudia'
Energy Crisis: Resource Guide for Energy Conservation Education.

Bonneville Power Administration, Portland, Oreg. Spons Agency—Oregon State Dept, of Energy, Salem.

Pub Date-78

Note—42p. EDRS Price MF-\$0.83 HC-\$2.06 Plus Postage, Descriptors— *Ageneres, Annotated Bibliographies, Audiovisual Aids, Curriculum Guides, *Educational Resources, *Energy Conservation, Environmental Education, Information Sources, Organizations (Groups), Periodiceis, *Resource

Identifiers - Energy Education, *Oregon
This publication is a resource guide to energy education and conservation materials and organizateachers and other interested ctutens of Oregon aware of some of the resources and sources of information on energy conservation education that are available in Oregon and in the United States and Canada. The first section lists the resources for en-ergy education giving: (1) agency or organization name and address; (2) agency functions; (3) publica-tions or films available from the agency; and (4) additional information about the agency and about apeakers, if available, from the secrety. The second section is an annotated highlogrammy of curriculum studes and teacher resource books. The titud section lists multimedia materials with sources and addresses. The fourth section lists periodicals in the Oregon area that relate to energy conservation education. (MR)

ED 166 032

Elvin, Retty And Others

Team Energy Education Framework: A Pilot. SE 026 355

Texas Education Agency, Austin. Pub Date—78 Note—28p.: Contains occasional light and broken

EDRS Price MF-\$0.83 HC-\$2.06 Plus Portage.

EDRS Price MF-\$0.83 HC-\$2.06 Plus Postage.
Descriptors—Conceptual Schemes, "Curriculum Development, "Curriculum Guides, "Elementary Secondary Education, Energy, "Energy Conservation, Environmental Education, "Matrices, Units of Study Identifiers—"Texas

This publication presents a conceptual framework for grades K through 12 energy education in Texas. Matrices are used in which "basic concerns of people" such as: (1) individual well-being: (2) career; and (3) accial interactions are given on one axis and three Icarning dimensions: (1) knowledge: (2) applications; and (3) values are used on the other axis. These matrices are to serve as a guide to curriculum development and are given for grade levels K-3, 4-6, development and are given for grade levels K-3, 4-6, 6-8, and 9-12. Energy education experiences are given for parts of these matrices. Infusing energy education into existing curricula is expanded and a rationale for energy education is given. (MR)

SO 011 528 Dalton. Ed And Others
The Energy and Conservation Education Glossary.
Energy and Man's Environment. Inc., Portland.

Pub Date-Note-36p, For related documents, see SO 011 523-529

Available from—Energy and Man's Environment. 0224 S.W. Hamilton, No. 301, Portland, Oregon 97201 (54,00, paper cover)

Pub Type- Reference Materiais : Vocabularica/-

Classifications (134)
EDRS Price MF-S0.83 Plus Postage, HC Not
Available from EDRS.

Descriptors—Conservation (Environment). *Conservation Education, Definitions, Elementary Secondary Education, *Energy. *Energy Conservation. Environmental Education, Environmental Influences, Fuels, Glossaries, Information Science, Reference Materials, Vocabulary Development, Word Lists

The glossary of approximately 700 energy-related terms provides a useful resource to K-12 classroom teachers and eurriculum developers for teaching basic energy concepts and skills in addition, developers of the glossary suggest that it can help teachers develop supplementary language and word games for students, such as crossword puzzles. The terms are arranged alphabetically and space is provided at the end of each alphabetic section, so that additional words and definitions can be added. Aladditional words and definitions can be added. Al-though the major focus of the glossary is energy resources, it also includes brief definitions of com-mon concepts, principles, and expressions related to conservation. The glossary concludes with a form requesting that feaders propose new words or sug-gest changes in existing content. (DB)

ED 170 139 SE 027 599 Althrooks, Ann And Others Environmental Studies: A High School Course for

Each Citizen, of Each Town, in South Carolina,

South Carolina State Dept. of Education, Columbia Pub Date-77 ote-772p

Pub Type—Guides • Classroom • Teacher (052)
EDRS Price • MF05/PC11 Plus Postage.
Descriptors—• Activity Units, Air Pollution Control. • Course Content. • Environmental Educa. tion. *Instructional Materials. Pollution. Science Activates. Science Education. *Secondary Education. Social Sciences, Water Pollution Control

This is a complete environmental studies course. for high schools it may be used as a year-long elec-tive, a semester course, or taiused by individual units into science, social studies, health, or other courses. The course is composed of thirteen separate units entitled (1) Investigating Environmental Problems and Issues. (2) Energy. (3) Water. (4) Food and Fiber. (5) the Marsh Lands. (6) Ecosystems (7) Land Use. (8) Climate and Air. (9) Poppia. tion, (10) Wildlife, (11) Chemicals and You, (12) Solid Wastes, and (13) Noise. Each unit contains a short entroduction, content statements, student ob sectives, student activities, and lists of resources The activities are geared to the state, national, and global fevel, but there is an emphasis on issues and concerns of South Carolina. (BB)

ED 173 072 SE 027 730

Coon. Hervert L. Bowman. Mary Lynne Energy Activities for the Classroom: Volume 11. ERIC Information Analysis Center for Science. Mathematics, and Environmental Education.

Mathematics, and Environmental Education.
Columbus, Ohio
Spons, Agency—National Inst. of Education
(DHEW), Washington, D C
Pub Date—Dec 78
Nate—165p.: For related document, see ED 130

Available from—Information Reference Center (ERIC IRC). The Ohio State University, 1200 Champers Rd, 3rd Floor, Columbus, Ohio 43212 (S. 00)

(\$3.00).

Pub Type— Guides · Classroom · Teacher (052).

EDRS Price · MF01/PC07 Plus Postage.

Descriptors—*Class Avisanes. Economics. *Elementary Secondary Education. *Energy. *Energy Conservation. Environmental Education. Fine Arts. Fuel Consumption. Fuels. History. *Instructional Materials. Language Arts. Mathematics Education. *Science Education. Science Materials. Scientific -Concepts. Social Studies, Technology.

nology Identifiers — *Energy Education, Information Anal-

ysis Products
This resource book contains descriptions of over 100 classroom activities designed to illustrate concepts relating to energy, its production, characteristics, use, and conservations. Each activity integrates the energy lesson into a concept that relates to one of more subject areas common to public school cur-ricula. Many of the actu ties included in the docu-ment were developed by public school teachers. In addition to teaching activities, an annotated bibliography of energy teaching resources available from ERIC is provided. (RE)

ED 173 115
Our School Yard Series: Project F.C.E. · SE 027 930

Cooperative Educational Service Agency 9, Green

Bay. Wis.

Spons Agency - Office of Education (DHEW),
Washington, D.C.

Pub Date—[79]

Note—50p.. May not reproduce clearly due to colored background

Pub Type—Guides - Classroom - Teacher (052)

EDRS Price - MF01 Plus Postage. PC Not Available from ETDE. ble from EDRS.

Descriptors — Class Activities, *Educational Favili-ties, Elementary Secondary Education, *Environ-ment, *Environmental Education, *Integrated Activities, *Integrated Curriculum, Validated Programs

Identifiers—"National Diffusion Network Programs. "Project ICE
This collection of teaching activities provides

guidance in using the resources of the sybbol yard to integrate environmental education with other subject areas Provided with each activity are. (1) recommended grade level; (2) subject areas integrated into the activity; (3) objectives. (4) rationale. (5) equipment needs. (6) specific activities, and (7) additional. optional activities (RE)

ED 173 117 SE 027 932 Environmental Activities Training Project: Field Activities.

Cooperative Educational Service Agency 9, Green Bay, Wis.

Spons Agency-Office of Education (DHEW). Washington, D.C. Pub Date—[79]

Pub Date—[79]
Note—263p.
Pub Type— Guides - Classroom - Teacher (052)
EDRS Price - MF01/PC11 Plus Postage.
Descriptors—*Class Activities, *Elementary Secondary Education, *Environment, *Environmental Education, Field Instruction, Field Trips, Interest Constant Integrated Curriculum, *Interdisciplinary Approach, Validated Programs

Identifiers-National Diffusion Network, Project ICE

Presented are descriptions of activines for both the classroom and the field. Activities, frequently integrate environmental education with other subject areas. Each activity description includes specification of grade level, disciplines being raught, concepts, objectives, directions, and equipment requirements when appropriate Classroom following programments are presented for other times. (P.F.) suggestions are presented for field activities (RE)

ED 174 371 2 RC 011 480 Murrow, Casey, Ed. Using Our Communities. An Outline for Action in



Vermont Schools. Spons Agency-Vermont State Dept. of Education Montpelier. ub Date—Jan 77

Pub Type — Guides Classroom - Teacher (052) — Reports - Descriptive (141) EDRS Price - MF01/PC03 Plus Postage.

Descriptors—Agnituture. Career Exploration
"Community Study. Community Support Curriculum Ehrlehment, Educational Resources, Elementary Secondary Education. Environmental Education. *Experiential Learning. *Field Trips. Interviews, *Learning Activities. Local Government, Local History, Natural Sciences. *Outdoor Education. Parent School Relationship. *Program Development. Relevance (Education). School Community Relationship. Social Services, Social

Studies, Student Motivation, Writing Identifiers—Experiential Education, *Vermont Outstanding community based work now going on in Vermont schools is described in this booklet on in Vermont schools is described in this booklet which also suggests ways to develop similar work in other communities. The term "Community Studies" used to encompass a broad range of activities earlied out with the local community as the focus of and location for students' work. The booklet discusses ways of obtaining program support from school administrators, parents, and the local community: outlines the wide variety of experiences possible in community based studies, and given guidelines for planning successful field trips. The section titled "Community Studies Activities" describes 50 projects undertaken in Vermont schools that succeeded in the eyes of the teachers and children involved. Activity categories are local history, media, natural resources, mapping, technology, government and social services, student businesses, community service projects, physical education and health, and agriculture and forestry. Additional activities tilustrate the techniques of shadowing, interviewing, and observing and describe ways in which viewing, and observing and describe ways in which teachers have used community studies to augment the regulat curriculum. Final chapters cover student enting toften the most striking success of com-unity oriented work), record keeping, and local and regional resources (JH)

ED 175 726 SE 028 809

Brown, Mark And Others
Florida's Urban Environment, Teacher's Guide.
Florida Audubon Society. Maitland.

Spons Agency—Office of Education (DHEW),
Washington, D.C. Office of Environmental Education

ention

cation.
Pub Date—75
Grant—GOO7407881
Note—28p; For related documents, see SE 028
807-810: Contains occasional light and broken

type
Pub Type— Guides · Classroom · Learner (051)
EDRS Price · MF01/PC02 Plbs Postage.
Descriptors— Cnty Planning, *Elementary Secondary Education. Environment. *Environmental Education. Planning. Public Policy. *Urban Areas, *Urban Environment. *Urban Studies Identifiers—Energy Education. Florida
This unit begins with the historical development of Florida and analyzes development from the perspective of an energy system. The unit deals with the urbanization process currently taking place in

spective of an energy system. Inc unit deals with the urbanization process currently taking place in Florida and explores where it may be leading. Lessons are designed for individualized instruction or for use by students in small groups. In some cases material may be used by students in large groups. (Author/RE)

SE 027 928 ED 176 957 Teas, Energy Education Framework.

Texas Education Agency, Austin. Div. of Curnculum Development

Pub Date-79

Note-26p., For related document, see ED 166 032 Pub Type- Guides · Classroom · Teacher (052)

Pub Type— Guides Classroom - Teacher (052)
EDRS Price - MF01/PC02 Plus Postage,
Descriptors—Conceptual Schemes, "Curriculum
Development. "Curriculum Guides, "Elementary
Secondary Education, Energy." Energy Conservation, Environmental Education. "Mattrees,
"Science Education, Technology, Units of Study
Identifiers—Energy Education, "Texas

This guide is designed to assist teachers and educational administrators to infuse energy education into the public school curriculum. The document is divided into blocks of grade levels K.3, 4-6, 6-8, 9-12. For each grade level, a matria is presented in which one axis includes such 'people' concerns as.

(1) consumer concerns: (2) individual well-being: (3) career. (4) recreasion, and (5) socio-legal. The other axis of the matrix includes the learning dimensions of, (1) knowledge, (2) application, and (3) values. The approach to energy education is multidisciplinary and an effort is made to relate the basic information to capenences which students have at various stages of public school education. (RE)

SE 028 908

ED 176 984 SE 028 90 Fowler, Kathryn Mervine Population: The Human Dilemma, An NSTA Eavi-ronmental Materials Guide.

National Science Teachers Association, Washington, D.C.

Spons Agency-Office of Education (DHEW),
Washington, D.C. Office of Environmental Education. Pub Date-77

Grant—G007601968
Note—99p.: Not available in hard copy due to copyright restrictions

Available from—National Science Teachers Association, 1742 Connecticut Ave., N.W., Washington, D.C. 20009 (Stock No. 471-14714; \$3.50)
Pub Type—Reference Materials - Bibliographies

EDRS Price - MF01 Plus Postage, PC Not Availa-

EDRS Price - MPDI Plus Pottage, PC Not Available from EDRS.

Descriptors—"Annotated Bibliographics, Demography, "Elementary Secondary Education, Environment.

"Environmental Education, Population Growth, Publications, "Resource Materials, "Seience Education, Population, Publications, "Resource Materials, "Seience Education, Publications,"

Presented are annotations on more than 100 popular books selected according to their appropriateness to the interests of classroom teachers and their students. This is designed to facilitate the in-troduction of contemporary Population education topics into the K-12 classroom Selections are oragaized both by subject and by reading level, includ-ing hybrid into teacher-level readings and readings appropriate for atudents in grades K-12. (Au-thor/RE)

ED 177 015 SE 029 135 The Edible Blue Mussel: A Learning Experience for Marine Education, Northern New England

Marine Education, Northern New England
Marine Education Project.
Maine Univ., Orono, Coll. of Education.: Maine
Univ., Orono, Sea Grant Program.

Spons Agency—National Occanne and Atmospheric Administration (DOC), Rockville, Md.
National Sea Grant Program.

Pub Date—?8

Note—21p.; For related documents, see SE 029 132-134; Not available in hard copy due to copy-nght restrictions

Pub Type- Guides - Classroom - Teacher (052) EDRS Price - MF01 Plus Postage, PC Not Available from EDRS.

ble from EDRS.

"Ecology. Elementary Secondary Education.

"Environmental Education. "Interdisciplinary Approach. Language Arts, Manne Biology. Mathematics Education. "Oceanology." Science Descriptors-Class Education, Social Studies Identifiers—"Sca Grant

The major unifying concept for each of the disci-plinary sections in this curriculum infusion unit is that the blue mussel is an easily obtainable, high quality, very palatable seasood. A section is provided for teacher familiarity with the snatomy and ecological background of the mussel. The guide is arranged by discipline areas. Sections provide objectives and directions for activities involving use of mussels to portray concepts of the discipline. (RE)

ED 179 421 Staub, Joseph R., Jr SÈ 029 501

Energy Education Resource Guide. Maryland State Dept. of Education, Baltimore. Divof Instruction; Maryland State Energy Office,
Ratingram

Pub Date-80 Note—34p.; Contains occasional colored print which may not reproduce well

Pub Type— Reference Materials Bibliographies (131) — Reference Materials Directories/.

Catalogs (132)

EDRS Price - MF01/PC02 Plus Postage. EDRS Price - Alfol/CO2 Plus Portage,
Descriptors—Art Education, Consumer Education,
"Elementary Secondary Education, "Energy,
"Environmental Education, Home Economics
Education, Industrial Arts, "Interdiscriptionary Approach, Language Arts, Mathematics Education,
Science Education, Social Studies, Special Educa-

Science Education. Social Studies, Special Education. Vocational Education
Identifiers—Energy Education.

This guide is an amoutated listing of recent curticular materials dealing with some aspects of energy. A grade-subject matrix at the beginning of the guide directs the user to pages containing appropriate references for level and desired subject. A standard body of information is given for each Suide entry. Materials are listed alphabetically by source, including the mailing address of the source, title, grade level, subject area, publication date, number of pages, price, and a brief abstract of the material. The collection includes 91 entries. (Author/RE)

ED 180 794

Carry, Helen H., Ed.

Energy Education Workshop Handbook: A Guide to Materials by the Project for an Energy. Enriched Currieulum.

National Science Teachers Association, Washing. ton, D.C.

Spons Agency-Department of Energy, Washing. ton, D.C. Office of Education, Business and Labor Affairs.

Rèport No —DOE-TID-3841-11 Puis Date—78 Contract—DOE-EX-76-C-10-3841

Note-82p.

Available from-U S. Department of Energy. Technical Information Center. P.O. Box 62. Oax Ridge, TN 37830 (no price quoted)

Pub Type- Guides · General (050) - Guides · Classroom · Teacher (052) - Guides · Non-Classroom (055)

EDRS Price - MF01/PC04 Plus Postage.

Descriptors-Curriculum Planning. Economic Education. * Energy, *Environmental Education. *Inservice Education, *Interdisciplinary Ap-proach, Nonformal Education, Science Education, Teacher Education. Teacher Workshops. Workshops
Identifiers—"Energy Education

This handbook is designed to help teachers subervisofs, elub leaders, and in-service directors lead workshops in energy education. It is based primarily on materials produced by Project for an Energy-Enriched Currieulum (PEEC), but can be modified for use with other materials. The handbook contains sia chapters includings(1) Introducing the PEEC Packets; (2) What Are the Facts Behind the Energy Crists. (3) Interdisciplinary Approaches to Teaching Energy, (4) Infusing Energy Topics into Traditional Subjects. (5) Adapting PEEC Materials to Regional Interests, and (6) Workshop Planning Aids. (Author/RE) 1

ED 180 827

SE 029 699

Onens Michael Energy Education Curriculum Resource. Energy Education Workshop: Energy Sources of the Future.

Education Service Centet Region 7. Kilgore, Tex. Puh Date-79 Note-173p.; Page 55 removed due to copyright

restrictions

Pub Type— Guides · Classroom · Teacher (052) — Guides · Non-Classroom (055)

Guides Non-Classroom (055)

EDRS Price - MF01/PC07 Plus Postage.

Descriptors—Curriculum, "Curriculum Development, "Curriculum Guides, "Curriculum Research, "Elementary Secondary Education, "Energy, "Energy Conservation, Interdisciplinary Approach, Science Education, Secondary Education, Social Studies Identifiers— Energy Education

This guide is designed to provide teachers with suggestions and assistance in equiping children as advocates of energy stewardship. It is divided into sta discussion sections and one section dedicated to specific energy activities presented as curriculum guides for. (1) intermediate science. (2) high school science. (3) intermediate social studies, and (4) high school social studies. Discussion sections deal with

energy education problems, a energy education framework, energy saying, duick fix energy checklets, and Federal Energy Audits Grauts. (Auhor/RE)

ED 181 656

EC 122 720

Winght, Joe Environmental Education for the Gifted and Tal-

ented.
Indiana State Dep: of Public Instruction. IndianaPolts. Div. of Currievium.
Spons Agenes—Office of Education (DHEW).
-Washington, D.C.
Pub Date—77

Pub Date—77
Note—19p.: For related materials, see EC 122 718-721

Charles Whaley: State Cousultant Available from-

Available from—Charles Whaley, State Cousultant fot Gifted and Taler ted Education, Indiana State Dept. of Public Instruction, State House, Indianapolis, IN 4624 (Free)

Pub Type—Guidès · Classroom · Teacher (052) — Reports · Description (141)

EDRS Price · MF01 · PC01 Plus Postage.

Descriptors—Ecology, Elementary Secondary Education, Euergy Conservation, "Environmental Education "Gifted, Guidelines, "Models, Natural Resources Program Descriptions, Program Development "Talented Students

Designed for school personnel the booklet suggests a framework for providing programs for the gifted and talented (CT) students that will develop a concern for environmental problems After a de-

a concern for environmental problems. After a description of environmental education and a rationale for its place in the classroom, descriptions of three Indiana programs for G. T. students are provided Suggestions for projects in each of the following, areas are listed (with sample projects in parentheses) community documentation, presers ation and restoration (plan and implement a senes of informational presentations on the history of the community emphasizing ecological trends); environmental improvement (monitor the water quality of water resources near the community and make the information available to the appropriate ources), and energy conservation (cooperate with ocal mechanies to develop a ear tune up eampaign). A list of principles of a G. T environmental educa-tion program is provided and resources for projects. such as business, industry, and organizations, are surveyed. (PHR)

SE 029 688

Boumon, Mary Linne Values Activities in Environmental Education

ERIC Information Analysis Center for Science.
Mathematics, and Environmental Education,
Columbus, Ohio

Spons Agency—National Inst of Education (DHEW), Washington, D.C
Pub Date—Dec 79
Contract—400-78-0004

Note-134p

Available from-Information Reference Center (ERIC IRC). The Ohio State University, 1200 Chambers Rd., 3rd Flogr. Columbus, Ohio #3212 (\$3.75)

Pub Type— Guides - Classroom - Teacher (052) EDRS Price - NF01 PC06 Plus PostaBe.

Descriptors—"Affective Behavior, Attitudes, Class Activities, Elementary Secondary Equation, "Environment "Extronmental Education," Humonistic Education, Interdisciplinary Approach, Moral Development, Personal Values, Social Values, Values

Identifiers-"Information Analysis Products

This collection of class activities is intended to Provide approaches to values discussion and clarifi-cation at all levels of the public school. Activities are presented for elementary school, junior high school. and senior high school pupils, and for ranges encompassing the entire range of various sequential ranges of grades. Subject areas involved in the activities include single subject areas or combinations of science, mathematics, social studies, language arts. and fine arts. Each activity includes a Dirpose state. ment, grade level, subjects involved by discipline area, references, and an actainty description. Activi-ties place the student in a simulated effeumstance where he or she must choose between conflicting values: (RE)

ED 183 416

SE 030 357

Byrnt, Robert And Othert tanipulation of the Ecosystem: A Cur-

riculum Guide for Elementary and Secondary Teachers. New Jersey State Dept. of Environmental Protection, Trenton.

Spons Agency-Office of Education (DHEW), Washington, D.C. Office of Environmental Education.

Pub Date-[80] Gniat--G007701233 、 Note-16p.

Pub Type- Guides - Classroom - Teacher (052)

EDRS Price MF01/PO01 Plus Postage.
Descriptors—Conservation Education, Curriculum Design, Ecology, "Elementary Secondary Education, Environmental Education, "History, interdisciplinary Approach.
"Natural Resources, "Science Education, Wilding Management

This short teaching unit presents broad topics dealing with natural resource management and the impacts of man, historically and currently, on the ecosystem A broad format has been used to facilitate adaptation of the topic to individual school systems and grade levels. An effort has been made to speculeally integrate selected disciplines into the topic. Notes are provided in the teaching unit which suggest modifications for grade levels. All suggested activities have been field-tested in public schools. The unit includes learning concepts; behavioral objecuves, class discussions, questions, supportive acbvines, and a "detailed example activity; and a glossary of terms. (RE)

ED 187 557

SE 030 943

LaHart. David E. Solar '80s: A Teacher's Handbook for Solar Energy

Education, Florida State Solar Energy Center, Cape Canaveral, Pub Date-Mar 80

Note—101p.: Contains light and broken type.
Pub Type—Guides - Classroom - Teachee (052)
EDRS Price - MF01/PC05 Plus Postage.
Descriptors—Conservation Education. *Cur

EDISTREE* MEULPUS PIUS POSTAGE.

Descriptors—Conservation Education. "Curriculum Development, Elementary Secondary Education, Energy, "Energy Conservation, Environmental Education, Fuel Consumption. "Fuels, Natural Resources. "Science Education. "Solar Radiation, Technological Advancement, Technology Identifiers—"Energy Education

This guide is intended to assist the teacher in exploring energy issues and the technology of solar

plonng energy issues and the technology of solar energy conversion and associated technologies. Seetions of the guide include: (1) Rationale: (2) Techtions of the guide include: (1) Rationale: (2) Technology Overview, (3) Sun Day Suggestions for School; (4) Backyard Solar Water Heater. (5) Solar Tea: (6) Biogas: (7) Solar Cells (3) Economies. (9) Sundials; (10) Activities for Elementary Schools: (11) Activities for Secondary Schools: and (12) a bibliography and souted listing for energy education materials. Other topics are covered in detail within the 19 chapters of the guide. (RE)

SE 030 642 Compbell, Sally R

An Educator's Guide to the Three Es: Energy, Ecologis, Economics, 1979 Edition.

Sears. Roebuck and Co Chicago. III
Pub Date 2-9
Note—24p. Not available in hard copy due to
copyright restrictions For related document, see
ED 164-404

Available from - Association Films Inc . Agents for Sears Consumer Information Service. \$12 Burg-ington Ave. LaGrange 1L 60525 (5) 00. Fice the a one-petricacher basis for staff development pro-

grams devoted to subject matter).

Pub Ti pe— Guides · Classoom · Teacher (052)

EDRS Price - MF01. Plus Postage, PC Not Availabie from EDRS.

bie from EDRS.

Descriptors—"Citizen Partieipatron, Class Activities, Currientom Development, "Ecology, "Economics, Elementary Sciondary Education, "Energy Conservation, Environment, Environmental Education, lost ractional Materials, "Interdisciplinary Approach, Natural Resources, Outdoor Education, Public Policy, Science Education, Social Studies Identifiers—"Energy Education

This goide presents units involved in unifying the student's view of energy, environment, and economics is the processing the environment, and economics in the environment, and economics in the environment, and economics is a server of the environment.

student's views of energy, environment, and economic issues in making decisions required of the elitten. Goals, concepts, and background informa-

tion are presented at the beginning of the booklet. A pretest of relevant knowledge is provided Other units include (1) example discussion questions, (2) suggested learning experiences: (3) interdisciplinary projects which include activities in Art. English. History, Driver Training, and Consumer Education (4) projects for advanced students: (5) elementary and middle school activities; and to a word games. A resource section in disding organizations. businesses, Publications, and government agencies concludes the booklet. (RE)

ED 188 919 SE 031 426 SE 031 42 Let's Recycle! Lesson Plans for Grades K-6 and 7-12.

Environmental Protection Agency, Washington, D.C. Office of Water Programs, Environmental Protection Agency, Vashington, D.C. Solid Waste Management Office.
Report No.—EPA-SW-801
Pub Date—80
Note—49p.; Pages 33-36 removed due to copyright

restrictions.

Pub Type— Guides - Classroom - Teacher (052)
EDRS Price - MF03. PC02 Plus Postage.
Descriptors— Class Actuates. "Curratuum Descripment. Elementary Secondary Education. "Euvironment, Environment, Education. Pollution. "Recycling Science Education. Social Sciences, Waste Disposal The purpose of this guice is to inform students of

solid waste problems and disposal options. Lesson plans deal specifically with waste and recycling and include interdisciplinary actionaches to these problems. The manual is divided in two sections - K-6 and 7-12. Activities are designed to allow the Jeacher maximum flexibility, and plans may be modified easily. A state-by-state list of solid waste agencies is provided (Author RE)

ED 190 348 SE 030 979

ED 190 348

Allen, Virginia | Hetherington, Martin

Life Styles, Teacher's Guide and Student Guide,

Net Energy Unit. Draft.

Michigan State Unit. East Lansing Cooperative

Extension Service. Michigan State Univ. East

Lansing Science and Mathematics Teaching Center.

Lansing Science and Mathematics fearing Center.

Spons Agency—Department of Energy. Washington, D.C.: Midnigan Dept of Commerce. Lansing. Pub Date—28 Mar. 79

Grant—EC-77-6-01-5092

Note—29p. Fdr. related documents, see SE 030

975-985 and ED 180 7a. Pages 5-8 in the Teacher's Guidefand 5-8 in the Student Materials remarked due to copyright restrictions.

Pub Type—Guides—Classroom—Learner (051)—Guides—Classroom—Teacher (052)

EDRS Price—NiF01/PC02 Plus Poscage.

Descriptors—Conservation Education. Curriculum Development. Decision Making. Elementary Schondary Education. Energy Conservation. "Em tronmental Education. Fuel Consumption. "Futures (of Society). "Interdisciphnary Approach. Natural Resources. Planning. Public Policy." Science Education. Social Studies Identifiers—Energy, Education.

Identifiers - Energy Education
This module is intended to assist the teacher in presenting lessons on the influence of energy on infestyles now and in the future. Five activities are presented including (1) a science fiction story (2) lifestyles interview. (غ) (Junte Projections, (4) en-ergy usage and lifesty-ciand (5) lifestyle differences. The module is intended to enter six class sessions. A slide set and film toof are needed for some class sessions. Availability information is provided, (RE)

ED 190 398 SE 031 490 Ek, George And Others Colorado Model for Construction Education: Con-SE 031 490

Colorado State Dept of Education. Denver: Colorado State Dept of Natural Resources, Denver.: Colorado State Div. of Wildlife, Denver

Pub Date—79

Note—116p: For related document, see SE 031
491. Contains colored pages which may not re-

produce well.

Available from—Culintado Dept. of Education.

State Office Building. 201 E Colfax, Denver. CO
80203 (\$10.00; No charge to Colorado Public Schools).

Pub Type-Guides - Classroom - Teacher (052)

EDRS Price - MF01/PC05 Plus Postage.

Descriptors- Concept Formation. Conservation Education, Curriculum, Development, "Decision 'Making, "Ecology, "Elementary Secondary Education, Environment, * Environmental Education, Interdisciplinary Approach, Natural Resources. Sciences, Social Studies

This guide describes a model to help students understand environmental and conservation concepts. The guide proposes four concepts: (1) The Wholeness of Earth's Systems. (2) The Effects of Ecosystems on Human Beings (3) Human Beings are Now the Most Influential of Earth's Organisms, and (4) Our Ability to Comprehend Must be Coupled With the Obligation of Self-Control. There are four segments, each of which contains a three-grade portion of the K-12 spant Each segment treats the four concepts and offers considerations and approaches for introducing students to the concepts. (RE)

SE 031 491

Ek George And Others Colorado Model for Conservation Education: Re-

Colorado State Dept of Education, Denver, Colorado State Dept of Natural Resources, Denver, Colorado State Div of Wildlife, Denver Pub Date-79

Note-193p, For related document, see SE 031 490. Contains colored pages which may not reproduce well.

Available from-Colorado Dept. of Education, State Office Building 201-E. Colfax, Denver, CO 80203 (\$4.00; No charge to Colorado Public Schools).

Pub Type- Guides - Classroom - Teacher (052) Reference Materials - Directories (Catalogs (132) EDRS Price - MF01/PC08 Plus Postage.

Descriptors-"Concept Formation, "Conservation Education, "Curneulum Development, "Decision Making, Ecology, Elementary Secondary Education, Environment, "Environmental Education, Natural Resources, "Resource Materials, Seiences, Social Studies

This guide is devoted-to-the presentation and development of concepts dealing with conscisuous and education in the public schools. The guide develops four overriding concepts: (1) The Wholeness of Earth's Systems; (2) The Effects of Ecosystems on Human Beings: (3) Human Beings Are Now the Most Influential of Earth's Organisms, and (4) Our Ability to Comprehend Must be Coupled With the Obligation of Self Control There are four segments. each of which covers a three-grade portion of the K-12 span Each segment deals with the four concepts in the context of the specific grade span Resource materials supporting concept development are ested. (RE)

ED 191 697 SE 031 902 The Challenge of Survival: A Guide for Teachers.
Bulletin No. 12. Revised 1975.
Arabama State Dept of Education Managements
Div. of Instructional Sections.

Div of Instructional Services
Pub Date: 75
Pub Date: 75
Source 1667: For related document see SE 031
903: Contains light and bricken type
Pub Type: Guidse-Classroom: Teacher (052)
EDRS Price - MF01/PC07 Plus Postage.
Descriptors: "Air Politation: "Cred Defense Class
Activities: Currentlam: Development: Discisore
Making: Elementary: Secondary Epilication
Making: Elementary: Secondary Epilication
"Emergency Programs: "Ensuranmental Edition
tom, Nachar Martars, Pollitton, Public Highlit,
"Public Policy," Water Pollitton
This guide is devoted to development of instruc-

This guide is devoted to development of instructinnal unite dealing with threats to human surerval. It addresses both natural and man-made disasters Chapters include descriptions of specific threats and suggested introduction to disting with them. Appendises present source into chairm for films, fee tessource, material, physical education, material resource agencies, and transparency masters (RE)

The Challenge of Sureival, Butletin 1976, No. 16. Alabama State Dest of Education, Minigomery Dit of-Instructional Services
Pub Date-76

Note +212p. For related document, see SE 031

900 Photographs may not reproduce well Pub Type- Ounder Ciststoom - Learner (051)

EDRS Price - MFol PCOP Plus Postage,
Descriptors - Art P. Li. C. "Civil Defense, Class
Activities, Currary on Development, Decision
Massing, Elem. "2" Secondary Education,
"Emergency Programs, "Environmental Education, Nuclear Massive, Pollotion, Public Health.

B. M. Beller, "Massive, Pollotion, Public Health. Public Policy, "Water Pollution

This booklet is intended to accompany tessons dealing with threats to human survival. It addresses both natural and man-made disasters. Chapters present photos and disgrams along with descriptions of specific threats and suggested approaches to dealing with them Chapters include (1) Disasters, (2) Survival in the Nuclear Age, (3) Civil Prepatedness in Other Nations (4) Civil Preparedress in Time of Emergency (5) Population and Pollution and Pe-troleum (6) Air Pollution (7) Noise Pollution (8) Water Pollution, (9) Energy, (10) Drug Abuse Problems. (11) Crists in the Streets, and a closing section of conclusions (RE)

ED 193 028 SE 032 869 Population Education in Health: Some Sample

Lessons.

United Nations Educational, Scientific, and Cultural Organization, Bankok (Thailand), Resional Office for Education in Asia and Oceania. Pub Date-80

Note-47p. For related documents, sec. SE 032 870-872

Reb Type- Guidesie Classroom - Teacher (052) EDRS Price - MF01/PC02 Plus Postage.

Descriptors-Community Health Services, Elementary Secondary Education, *Environmental Education, *Health Education, Health Materials. Nutrition, "Overpopulation, "Population Education. Population Gtowith, Teaching Gindes

This manual for home economics teachers contains eight sample lessons on health assuescelated to population growth. Among the topics treated are nutertion, family health, communicable diseases, eauses of high mortality, and community health ser-sices. Lessons are designed for lower primary through high school students. A scope and sequence chart depicts how teachers can integrate population-felaced concerns into the health curriculum, These activities were adapted from materials prepared in several countries in Asia and Occania.

ED 193 029 SE 032 870 Population Education in Home Economics: Some Sample Lessons.

Enited Nations Educational, Scientific, and Cul-tural Organization, Bankok (Thailand), Regional Office for Education in Asia and Oceania. Pub Date -80

Note-54p: For related documents, see SE 032 869-872 Contains oceasional marginal legibility Pub Type - Guidet - Classroom - Teacher (052) EDRS Price - MF01/PC03 Plus Postage.

Descriptors-Elementary Secondary Education. Environmental Education Family Life Education. "Home Economies Education. Home Eco-.Maritage. Trachets. Nutrition Instruction. Overpupulation. Population Edueation, Teaching Guides

Seven sample lessons on population and the family appear in this home economies teacher's manual. These activities have been adapted from amaterials produced in several countries in Asia and Oceania A wore and sequence chast illustrates how teachers can integrate population-felated issues into the home economics curriculum. Among the took's covered in this manual are family relationships, nutrition, family stages, marriage, adolescent changes and decisions, and family resources Activities are designed for students in the upper primary grades intough high school (WB)

ED 193 030 SE 032 871. Population Education in Mathematics: Some Same ale Lessons.

United Nations Educational, Scientific, and Cul-turas Airgunization, Bunish (Thatland) Regional Office for Education in Asia and Oceania. Pub Dute 'At

Note - *p., Fer reused documents, see SE 032 869-872

Pub Tyre- Gu ucs - Classroom - Teacher (052)

Pub Type - Guices Classroom - Teacher (052)
EDRS Price - XI/01 PC02 Plus Postage.
Descripture - "Excitormental Education, Varhermatics Education "Excitormental Education, Varhermatics Education "Maintenance Instruction, Maintenance Caucher "Overpupulation, "Population Education," Pupulation Growth, Teaching Groups

This maineman is teacher's manual contains ten sample lessons of population gliestin and demography that were all maderom materials produced in several countries. It Asia and Oceania. Among the mathematics convers and skills students apply ing these lessons are set theory, eardinal and ordinal numbers, frequency tollies, persentages, ratios, av-grages, inequalities, and the use of graphs and tables. Activities are disched for lower primary through high school students. Tonos investigated include family size, fert, it, rates, ageises pyramids, desecope and sequence chart situated how teachers can integrate population-related issues into the regular mathematics curriculum (WB)

SE 033 190 Roth Charles E. Lockwood, Linda G.

Strategies and Activities for Using Local Com-munities as Environmental Education Sites. ERIC Clearinghouse for Science, Mathematics, and

ERIC Clearing house for Science. Mathematics, and Environmental Education, Columbus, Ohio Spons Agency—National Inst of Education (DHEW), Washington, D.C.
Pub Date—Dec 79
Contract—109-78-0004
Note—195p
Available from—Information Reference Center (ERIC IRC), The Ohio State Univ., 1200 Chambers Rd., 3rd Floor, Columbus, OH 43212 (\$5-50).

Puh Type- Guides - Classroom - Teacher (052) -

Pub Type— Guides - Classroom - Teacher (1921)—
Information Analyses (070)
EDRS Price - MF0)/PC08 Plus Postage.
Descriptors—"Community Problems, "Community Study, Elementary Secondary Education, "Ensiropmental Education, "Natural Resources, Nonformal Education, "Outdoor Education,"
Resource Materials, Science Education, Science Information Social Studies.

Instruction, Social Studies
Presented are over 100 environmental education activities which use the local community for a learning site and resource. These lessons are grouped under seven topical headings. (1) biological neighbors. (2) physical environs. (3) built environs. (4) social environs. (5) understanding ourselves, (6) influencing change, and (7) improvement and restoration projects. Lesson plans include purpose, materials needed procedure, additional notes, and references. Among the learning strategies employed are field tops, community insentories, simulations, salues clarification activities, and community action projects. Intended for 9 through 18-year-olds, these activities have been compiled from elitrently available materials and are appropriate for use in both formal and non-formal educational programs. Appendices include listings of telerence materials and sources of community information. (WB)

Yankee Lands: A Land Use Curriculum Project. Antroch/New England Graduate School, Keene,

Spons Agency-Office of Education (DHEW). Washington, D.C. Office of Environmental Edu-Pub Date -80

Note—363p.: Not available in hard copy due to marginal legibility of original document. Several

charts removed due to oversize.

Pub Type— Guids: Classroom - Teacher (052)

EDRS Price - MP01 Plus Postage, PC Not Available from EDRS.

Descriptors-Ecology, *Elementary Secondary Education, "Environmental Education, Field Trips, "Land Use, "Natural Resources, "Outdoor Education, Resource Materials, Science Education. "Social Studies ... Identificis-New England

In response to issues surrounding the acquisition and planning of Pisgah State Para. New Hampshire, the Antiochi New England Graduate School has produced this set of activities related to land use decisions. Contained are learning experiences de-

signed to help students appreciate New England's natural and cultural history in order to encourage a sense of responsibility and respect for the land. The in units deal with ecologies ancession, the hill farm community. New England's energy resources, using the winter landscape, the politics of wilderness development, and future land use decisions. of begins with a major pacesetting activity. followed by a series of supplementary studies. De satied background information regarding biological and social aspects of the Piskah State Park area accompanies several lessons. While many activities presented are field experiences in Pissah State Park. these lessons are siso intended to serve 45 models for land use studies in other locations. (WB)

SE 033,681 Bowman, Mary Lynne Comp Tesching Basic Skills Through Environmental Education Activities. ERIC Clearinghouse for Science. Mathematics, and Environmental Education Columbus. Ohio pons Agency-National Inst. of Education (DHEW), Washington, D.C. Pub Date-Dec 79 Contract-400-8-0004

Note - 176P Available from Information Reference Center (ERIC-IRC). The Onio State University, 1200 Chambers Rd., 3rd Floor, Columbus, OH 43212

Books (010) -- Guides - Classroom Teacher (052) - Information Analyses - ERIC

Technol (022) — Information Analyses * ERIC Information Analysis Products (0"1)

EDRS Price - MF01, PC06 Plus Postage.

Descriptors—*Basis Skals, *Elementary Secondary

Education *Ensistemental Education, Instruc-Education, "Mathematics Education, Mathematics Education, "Mathematics Instruction, Ontdoor Education, Reading Skills, Writing Skills

Education, Reading Skills, Writing Skills
Presented are 65 particular appropriented environmental education activities for reaching basic skills
in language arts and matricular assistanced for students in the elementary radium right school grades, wons are classified by grade to be and subject area

Evalt lesson plan describes the purpose, lists required materials, and contains the purpose, lists required materials, and contains the institutional
procedure. Among the skills covered are those related to reading, grantfar, scattice writing, basic
number processes, geometry, and solving word
problems. Also provided are references for each activity and a list of publications on other environtivity and a list of publications on other environmental education activities. (WB)

SE 033 936 A Framework for Environmental Education in the Public Schools of Hanani.

Hawaii State Dept of Education, Honolulu Office of Instructional Services
Report No.—TAC-77-4277

Pub Date - Sep 77

Note- 10p Pub Type - Guides - Classroom - Téacher (052)

Pub Noc Guides - Classroom - Teacher (052)
EDRS Price - AlFOL/PCOI Plus Postage.
Descripto's—Curriculum Desclopment. "Curriculum Candes." Elementary Secondary Education. "Encironmental Education. Program Guides State Curriculum Guides. State Departments of Education. Statewide Planning

Prepared by the Hawan State Department of Edueation, this tramework for environmental education is intended to guide teal ners and administrators in their development of kind environmental education bobulant transparent general and topular margorq sty objectives. C fationaie, general concepts, ensi-confidental issues, and s scope and sequence model.

ED 199 092 SE 034 442 · Stapp, William B Coe, Dorothe A.

Environmental Liducation Activities Manual. Revised Edition.

Pub Date - Oct 79 Note - 58p. For telated documents, see ED 119 944-949 Not available in hard empy due to marginal legibility of original document.

Available from—Dorothy A. Cox. 32493 Shady Ridge Dr., Farmington Hills, MI 48013 1512 00

each postpaid).
Pub Type- Books (010) - Guides - Classroom - Teacher (052)

EDRS Price - MI'04 Plus Postage, PC Not Availa-

ble from EDRS.

Descriptors-*Community Action. *Concept Formation. Elementary Secondary Education. *Envir

ronmental Education, Interdisciplinary Approach, *Problem Solving, Science Activities, Science Education, Science Instruction, Social Studies, "Values Clarification

Published Previously as six separate books, this revised manual contains lesson plans for over 300 K-12 environmental education experiences. Four

activity sections follow an introductory chapter on the philosophy, model, and implementation guidelines for the people-environment interaction per-spective upon which these activities focus. The Concept Activities and Understandings section provides lessons on five major expects take to the development of environmentally itierate eitirens ecosystem population economics and technology. environmental decisions, and environmental ethics In the Skill Developing Activities chapter, experiences that foster development of eight environmen-ial problem-solving skills are offered. Strategies to help students examine their environment-related values comprise the section on Values Clarification Activities. The Environmental Encounters section contains a series of attivities for studying and soluing environmental problems in schools and communities. Lessons in all four of these activity sections are identified by grade level Concluding the manual is a chapter listing titles and sources of numerous environmental education resource materials (WB)

ED 200 424 SE 034 552

Schemer Sharon Ed Conservation of Energy: Idea and Aenvity Guide. An Interdisciplinary Teacher's Unide to Energy and Environmental Activities, Section Fight, Energy and Man's Environment, Inc., Portland,

Pub Date-79

Note—17 op : Not available in hard copy due to copyright restrictions Available from - Energy and Man's Environment.

3 1 5 % Nimbis Ave. Beaverton, OR, 97005 (56.00)

Pub Type - Guides - Classroom - Teacher (052) EDRS Price - VII 01 Plus Postage, PC Not Availa. ble from EDRS.

Descriptors—Current Events, Elementary Seconds ary Education, "Energy, "Energy Conservation, "Environmental Education, Interdisciplinary Approach, Science Education, "Science Instruction, "Social Studies, Values

*Social Studies. Values
Presented are several hundred energy and ensitionment-related instructional ideas and activities for grades Kithrough 12. These biref suggestions are infended to serve as a resource bank of feaching ideas, rather than as a set of detailed beston plans identified as to grade level, the activities are grouped into 8 sections which are each based on an effergy conservation cancept and ceries of general objectives. Educators may use this compenditum as affacts the guide as a recorded document for plan-ning entire units, and as a tool for stimulating discussion in inservice programs. (Author WB)

SE 034 579 ED 200 435 As Bence

Helping Ourselves: Local Solutions to Global Problems.

Problems.

Wouldwatch Inst., Washington, D.C.,
Report No. - ISBN 0-393-01362-6

Pub Date: -- Viat Si
Note -- 158p., Not accutable in hard copy diff to copyright restrictions.

Pub Type -- Books (010) -- Reports -- Descriptive

I DRS Price - MIOI Plus Postage, PC Nat. 482812-

Problem School, Quality of Lines, Scient Problems, World Problems, Community Programs, Environmental Education "Line Style, Local Londs Problems, World Proble

Securions to global productive such as inflation. high arming energy softment of a materiorating of the sounding of a large state of the large solution and the molecular of th ger inclused is most threat and a benefite of de-tion are most ann chate. Evan his of problems refrom the floor and course a care to the production peach care, and fundly share is dependent in the success of self-help storts. Either seed as actions as the personal and symmunity lets we reconstruct to remains again government form attors and the professional edite (Chapter WB) (4)

ED 200 481

Global Education-An Implementation Plan & Resource Guide.

Pub Date—80
Note—70. Some pages may not reproduce clearly from EDRS in paper comp or microfiche due to

Poor reproductability of original documents
Pub Type - Guiden - Clarectom - Teacher 1951 a
EDRS Price - MF01 P003 Plus Postage.
Descriptions - Appetited - Biologiachies - C. aum Development, Definitions, Educations

ticulum Development, Definitions Educations Objectives, Etene-iet Secondam Editorio Geographs, "Glodu Approach, Interaccipitudis Approach Learning Activities, Program Deve-lopment, Detai Studies

This guide compans a retional elliplan, and biblingraph) for the implementation of a K-12, district wide, global education program. Paris one and two
of the guide provide a definition of and rationals for tiobal education. Grabated action is defined acting paticipation, of the world community and integrited dependency of its provides and systems—econograp. social economic, and technological. The rabinate provided is taken from a statement by Rone, Duron. 1969 Pulitzer Prize recipient. Part twe outribecape. 9 cific goals of global education. How to implement a program is the tomojor part three. A self-assessment program instrument, simulated paggested stops for starning a Program are get administrative support. identity a starf party is in needs assessment, tassay guidelines, prengre professional statt focuse existing resources, and develop a model program. Activities for Classicom use in various disciplines are the ontined. The gride suggests that physical education teachers unlike games from diffesent countries to a about the musical instruments from around the world. A geography nert entitled "Could You bise, and Work in a Country Other Than Your Oyh" is. described. An apparated bippingraphy, which climprises about half the bubbleghor, conducted the guide. Cited are teacher resources and primiliand nonPrint student materials. The majorpals instead date back to 1973 (Author: RND)

ED 202 963. .⊮ UD 021 462 Be a Water Wateher: A Resource Guide for Water Conservation, K-12:

New York City Board of Education, Brooklyn, N.Y.
Div. of Curriculum and Instruction.

Pub Date—[81] Note—33p: Pages 15-19; have been defeied for pro-

Note-33p: Pages 15-19; have been defeted for e-copyright reasons
I ub Type- Gnides - Classroom - Teacher (052)
EDRS Price: MFOI/PC02 Pius Postaze.

Descriptors- Class Activities. Conservation, (En: witcomment). Elementary Secondary Edneation.
Science instruction. Water Resources
Identifiers- New York (New York)
This is a resource guide in response to the New York City water mortgeney) for grades R-12 on the subject of water wonservation. Activities are suggested for setting, industrial artistical studies, and communications arts classes. A bibliography on, was ter is also provided (APM) communications ares classes. A bibliography on wa-

SE 035 241 ED 204 138 Environmental Education K. 1. Curriculum Guide Haway State Dept of Education Honolulu. Office of Instructional Services.

Report No.—RS-81-0652.

Pub Date—Mar 81

3.75 J

Pup Oste—Mat 81
Note—2159.
Pub Type— Guides · Classroom Teacher (1952)—
Guides · Non Classroom (1955)
EDRS Price · MF010/4/CO9 Plus Postage
Descriptors— Curriculum Developmenta · Curriculum Gnides · Elementary Secondary Education. Saturranmental Education, interdisciplinary Approach. Program Descriptions. Resource Thereals. State Curriculum Guides, State Programs
Lientifiers—Hawaii

dentifiers—Has an Identifiers—Has an Identifiers—Ha ples and ranonale for envagagiental education in the second chapter, overall Buals, objectives and

W. .

-- competencies are presented along with a sende and sequence model and descriptions of the desired chaecteristics of programs and personnel Chapter III esembes the content of environmental education by concepts, subjects, and areas of concert. Chapter (A) contains a set of instructional goals and attendant objectives which integrate the concepts and issues to provide an approach for classroom use. This chapter also includes a chart matching performance especiations with instructional objectives. Pre-sented in the Appendix are definitions and discussions of environmental terms and issues, descriptions of resource materials, and a list of enviconment-related agencies and organizations. (Author/WB)

EQ 207 817

SE 035 589

Simmons, John S., Ed. Sammon John S. Ca.

Learning About Energy in Secondary Schools:

Some Exemplary Lestons for Students. Volume

II. Final Report, April 8, 1981 to December 31,

Florida State Univ., Talkahassee, Coll. of Education. Spons Agency—Department of Energy, Washington. D.C.

Pub Date-81

Grant-DE-FG0\$-81CA10087

Note-124p.; Contains occasional marginal legibilltv.

ty.

Pub Type— Guides - Classroom - Teacher (0\$2)

EDRS Price - Mil 01 1*C05 Pluc Postage.

Descriptors—Activity Units, Art Activities, *Conservation Education, Elementary School Science, Elementary Secondary Education, *Energy, *En elementary Secondary Education, Education, Education, elimination of the vironmental Education. Instructional Valentals, Interductiplinary Approach, eliminate Arts. Learning Activities, Valentematics, Solence Ed., atton. Segondary School Science, Social Studies, "Teaching Oudes Identifiers—"Energy Education

Sixteen teaching units of activities were prepared for students in grades 4-12 to increase their awareness, knowledge, and skills of energy and energy related issues by examining topics such as energy truservation on the farm, foreign oil, U.S. energy conservation on the far-n, foreign oil. U.S. energy consumption, energy efficient houses, alternative energy sources, personal energy use, conservation, automobiles and geographys, The zervities draw upon social studier, mathematics, language aris, science, art and architecture, and use a variety of teaching methods including films, discussion, role playing, readings, question and answers, map and graph reading interviewing, speecher, lecture and group work. While the organizational formar for each unit is not standardized, most indicate grade level, subject, objectives, new vocabulary, materials needed, skills, evaluation, and resource materials. In the beginning of the book, a Florida Governor's Energy Award Program, comparable to the Presidential Physical Fitness Program, is proposed, it is suggested that local areas implement this award prograin, with their own award certificates. (DC)

ED 214 752

Bowmon, Mary Lynne
Teaching Natural Resource Management Through
Environmental Education Activities.

ERIC Clearinghouse for Science, Mathematics, and,
Environmental Education, Columbus, Ohio.

Spons Agency—National Inst. of Education (ED),
Washington, D.C.
Pub Date—Dec 81
Contract—400-78-0004
Note—197n.

Contract—1970.

Note—1970.

Available, from—Information Reference Center

(ERIC/IRC), The Ohio State Univ., 1200 Chambers Rd., 3rd Floor, Columbus, OH 43212 (\$6.

50).

Pub Type—Guides · Classroom · Learner (081) —
Guides · Classroom · Teacher (082) — information Analyses · ERIC Information Analysis Products (071)

EDRS Price · MF01/PC08 Plus Postage.

Descriptors—Atritudes, *Conservation Education, ,

*Curiculum, Elementary Secondary Education, *Environmental Education, Mathematics, *Natural Resources, *Sciences, *Social Sciences, *Supplementary Reading Materials, Values
lentifiers—Natural Resources Management
This publication presents a variety of participation.

oriented environmental education activities for teaching natural resources education. Activities are divided into five categories: (1) Elementary School, Activities, (2) Elementary Junior High School, Activities, (2) Elementary Junior High School, Activities, tivities; (3)-dunior High School Activities; (4) Junior-Senior High School Activities, and (5) Senior High School Activities. Most activities include a purpose, level, subject areas, reference of the source of the activity, and the activity itself. A variety of experiences are included for most school subject areas. (RH)

ED 218 154° SE 038-294 Environmental Education: A Guide to Teaching

Conservation in Texas.
Texas Education Agency, Austin. Div. of Cur-riculum Development.

riculum Development.
Pub Date—81
Note—132p.
Available from—Additional copies may be purchased for 53. by contacting the Publications Distribution Office, Teass Education Agency.
Pub Type—Guides—Classroom—Teacher (052)—Reference Materials (130)
EDRS Price—MP01 Plus Postage, PC Not Available from EDRS.

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Descriptors—*Conservation (Environment), *Conservation Education, Ecological Factors, Elementary Secondary Education, *Environmental Education, *Forestry, *Natural Resources, Resource Materials, Water Resources, *Wildlife Identifiers—Minerals, *Teass

This document describes Texas' natural resources

and suggests ways to correlate conservation instruction into the existing curriculum. Resources dis-cussed include: 1) soil (soil formation; properties of soils; soil survey, soil use in agriculture; soils and the state economy, land value; specific soil resources); 2) air (principal gollutants and their effects; methods of detecting and measuring air contaminants; methods of climinating/reducing air contaminants; automobile exhausr emissions; legislation and control agencies; air control regions/programs); 3) forests (forests serving people; tree regions; commercial forests and industry); 4) wildlife (game mammels and birds; food/game fish; non-game animais: are/endangered species: government roles in wildlife management; economic value of Texas wildlife): S) rangeland (importance and historical use of rangeland; climate; soil formations; managing tangeland resources; physiological aspects of range plants; ecological considerations; range condition classification and improvement practices); 6) mincral (nuneral production and economy; distribution of mineral resources: mineral industries): 7) oil and gas (search for oil and gas; exploring for oil; crude oil production; energy shortage; federal/ state regulation; natural gas production; refining and petro-chemicals; transportation; marketing; oil/gas reserves); 8) water (general considerations, specific water resources; planned/developmental agencies; priorities for use of water; state/national economy); and 10) estuarine resources (general characteristics and estuarine life). (JN)

ED 218 160 SE 038 584 Raindrops - Teachers Guide. Duke Power Company, Educational Services Dept., Charlotte, NC. Pub Date—29 Sep 79

Pub Date—29 Sep 79
Note—50p.
Pub Type—Guides - Classroom - Feacher (082)
EDRS Price - MF01/PC92 Plus Postage.
Descriptors—Ecology. Elementary Secondary
Education. Environment, Environmental Education, Interdisciplinary Approach. Learning
Activities, Power Technology, Social Studies,
*Utilities, Water Resources
Identifiers—Carawbo-River, North Carolina
Following a test and answer sheet for pretesting/positisting purposes related to the film "Ranodrops" (fecusing on the coology of, and electine
dyclopment along, the banks of North Carolina's
Carawba River), seven activities are outlined as pos-

Catanba River), seven activities are outlined as possphilines for helping students gain a fuller under-standing of the nver and its development. The standing of the provided for each activity, materials required (maps, charts, puzzles, worksheets) are included as part of the activity or call for use of readily available library sources such as the "World Almanae," Five suggestions for further en-hancing the study of the Catawba River and answers to questions are also included (Author IN).

ED 218.162 Campe, Stephen L Energy Pootball Pub Dato-Jun 82

Note-15p. Pub Type - Guides - Classroom - Teacher (0\$2) EDRS Price • MF01/PC01 Plus Postage.

Descriptors—*Conservation Education, *Educational Games, Elementary Secondary Education. *Energy, *Energy Conservation, Interdisciplinary Approach, Learning Activities

- Energy Education This game is designed to provide basic energy information and to foster addition, subtraction, and multiplication skills while the game is being played. Game cards contain questions, answers, and infor-mation on the value of the questions. The cards are to be cut spart and retained by the "referee" he/she asks Questions of team member(s). Teachers will need to provide a die and markers for the yard-age and the "football." The game may be extended by devising new questions based on material studied in class. (Author/JN)

SO 014 192 ED 219 327 Shillenn, James K. Vincentt, John R. Nuclear Pawer in the Classroom: A Union of Science and Social Studies Education.

Pub Date -Aug 81

Note-14p. Pub Type-

Note—14p.

Pub Type— Opinion Papers (120).— Guides Classroom - Teacher (052)

EDRS Price - MF01/PC01 Plus Postage.
Descriptors—Controversial Issues (Course Content), Course Content, Education, Poetral Reducation, Inservice Teacher
Education, *Interdisciplinary Approach *Nuclear Energy, *Science Instruction, *Social Studies

This paper examines issues that K-12 science and social studies teachers need to keep in mind when teaching about nuclear power. The information needs to be presented in as objective a manner as possible. Science needs to become more social oriented. Team teaching should be encouraged. Elementary and secondary inservice teacher education is needed. When designing a class about nuclear energy, teachers need to be aware that accuracy of informational content needs to be considered from two perspectives. These perspectives are the cor-rectness of the information and the intellectual honesty with which this information is presented. Teachers should also know the fusior issues sur: tounding the nuclear debate and some of the argu-ments on both sides of the issues so that information and activities can focus on these major points. The paper examines sux of these major issues and dis-cusses what nuclear advocates and adversaries say custes what nuclear advocates and adversaries say concerning them. The issues are nuclear safety, health impact, nuclear waste management, economics of nuclear power, the need for nuclear power, and nuclear proliferation. In developing a strategy for presenting these nuclear issues in the classroom, there are a variety of available resources that the classroom teacher can use. The paper does not describe the resources. (RM)

SE_038 586

 $\cdot \dot{\text{SUBJECT}}_{\circ} \text{INDEX}$

NOTE: Documents are listed by ED number in the Table of Contents. The page on which the abstract can be lacated is listed.

| | | * | • | | • | | | |
|------------------------------|--|----------------------------------|----------------------------------|--|--------------------------------------|----------------------------------|----------------------------------|----------------------------|
| *ACADEMIC ACHIEVENENT | (1) | ED197924 | , ** | | | 4. | | |
| ACADEMICALLY GIFTED | 4.1) | ED150783 | • | ** * | | · · · . | ** | , |
| ACADIA NATIONAL PARE | (1) | ED173057 | | | • | • . | | |
| *ACOUSTICAL ENVIRONMENT | (3) | . ED201508 | ED201509 | ED201510 | - | | ~ · | |
| *ACOUSTIGS | (3) . | ED201508 | ED201509 | - ED201519 | , | | | |
| ACOUSTICS | CD. | ED15777,1 | | - , | | • | : . | |
| *ACTIVITIES . | (22) ED160284 ED166010 | ED129535 ED160285 ED166011 | ED157662 ED160236 ED166012 | ED157666 ED164192 ED166013 | ED 158906 LD 165970 LD 166014 | ED160281 ED165973 ED166015 | ED160282 ED165974 ED167312 | ED160283 ED165977 |
| ACTAVITIB | (7) | ED038223 | ED038224 | ED 157757 | LD164334 | E9176905 | ED183297 | ED186156- |
| *ACTIVITY LEADNING | (6) | ED034194 | ED059926 | ED059947 | E093648 | ED098084 | ED141953 - | |
| ACTIVITY LEARNING | (8) ED151297 | ED058127 | EU059949\ | EB063989 | EB985247 | E0025248 | ED090673 | ED103294 |
| #ACTIVITY UNITS | (19) ED170439 ED211374 | ED083117 ED170151 ED211375 | ED134537 ED170152 ED211576 | ED 15 1297 ED 174365 ED 2 1 1377 | ED153819 ED174366 | | ED174358 | ED168877 ED211873 |
| ACTIVITY UNITS | (22) ED(53820 ED(84735 | ED059958 ED154996 ED207817 | EB061126 EB166069 EB207624 | ED962234 ED166010 ED267858 | -EB066407 -ED1669 FT -ED207859 | | ED989993 ED171897 ED219281 | EL091172 ED174864 |
| ADJUSTICATI (TO ENVIRONMENT) | $\int_{\mathbb{R}^{N}} \mathbf{C} \mathbf{D} \left[\int_{\mathbb{R}^{N}} \mathbf{C} \mathbf{C} \mathbf{C} \mathbf{C} \right] d\mathbf{C}$ | ED174367 | | | | | | |
| ADMINISTRATIVE ORGANIZATION | (2) | ED038222 | ED971836 | | | | | ا مار در المعاد الأسعيد |
| ADMINISTRATIVE POLICY | (1) | ED167366 | | : | | - | | |
| ADMINISTRATOR ATTITUDES | (1) | ED187875 | - | a coming and | ≅ | , | · · · | |
| ≠ADMINISTRATOR GUIDES | •c(1) | 7 .0033784. | - ' | | ** | | <u>.</u> | • |
| ADMINISTRATOR GUIDES | (t) | ED093621 | . : : | | · | | • | |
| ADDINISTRATOR ROLE | , (Ω) | ED033784 | ٠. | | | | • | |
| *ADOLESCEUT DEVELOPMENT | -(·1) | ED200381 | | | į. | \sim : | | |
| *ADÉLESCRITS | $\mathbb{C}^{\mathbf{G}}$ | ED179443 | | | | | | |
| ADOLESCENTS | (3) | - | ED087109 | ' | * | | 1 | |
| ADULT EDUCATION | | - | | ED152499 | ED164417 | ED179484 | ED296517 | |
| ADVANTAGED | (2) | · ED214838 | _ | | | | | |
| *ADVENTURE EDUCATION | (2) | ED176908 | ED200331 | | | | | |
| ADVENTURE EDUÇĂTION . | (1) | . ED187485 | | * | | | - , , | 33 |
| MAEROSPACE EDUCATION | GD 🔭 | ED06311.1 | A | prez hac | Y AVAILABLE | | | 182 |
| ACE TECHNOLOGY | (D) | KD093111 | | DEAL OUT | า นระยะพล ะ ต | | | |
| ERICare appartun | i (i) | in 1250ff | | The same | | | ्रे हे (कोन्यान कहा) | |

| | 4 | .• | | | | | | • |
|--|--|---|----------------------|----------------------|-----------|--------------------------|----------|-------------|
| AESTHETIC EDUCATION *AFFECTIVE BELIAVIOR | (2) (2) | ED144332 ED182118 | ED165972 ED187485 | • | | , f | | , · · · · · |
| AFFECTIVE OBJECTIVES | (B) ED176908 | ED055018 | ED058127 | ED059926. | ED062182 | ED064196 | ED125908 | ED173057 |
| | (D), | ED147223 | <i>.</i> · | | • | | , | · |
| AGE DISCRIMINATION | (I) , | ED202940 | | · · | | _ | • | |
| PVGENCICA | (I) | ED166016 | | · . | • | • | | |
| ACENCIES | (2) | ED063989 | ED 158906 | • | ~ | | . 😽 | |
| AGENOV ROLE | $\hat{\mathbf{q}}\hat{\mathbf{b}}$ $\hat{\mathbf{b}}$ $\hat{\mathbf{b}}$ | ED157666 | | | | | · | · · · |
| AGING (FUDIVIDUALS) | a) | ED214842 | | | | | - { | |
| =AGRICULTURAL=EDUCATION | (2) | ED100659 | ED 153841 | • • • • | ء م | 1 | | |
| ACRICULTURAL EDUCATION | (1) | ED179895 | | | | | | • • • |
| ACRICULTURAL PRODUCTION | (1) | ED219273 | | | | | •\ | , |
| ACRICOLTURE | (4) | ED133213 | ED147224 | ED156594 | ED219273 | • | , 2 | |
| AGRICOLTURE | (4) | ED147222 | ED 147223 | ED174371 | ED211375 | | | 1 ± |
| AIR | (2) | ED 100676 | ED100712 | | | | | |
| SAIR POLLUTION | (6) | ED178350 | ED184863. | ED191 <u>69</u> 7 | ÊD191698∢ | ED212460 | ED212461 | t. * |
| Ain Pollution | (2) | ED176960 | ED 180832 | | | 77 | | |
| AIR POLEUTION CONTROL | (8) ED133225 | ED062122 | ED967245 | E0067246 | ED070615 | ED0B2978. | ED099234 | ED133224 |
| | | ED073032 | ED986473 | ED092378 | ED114268 | ED133150 | ED144332 | ED170139 |
| | (8) ED174407 | · · · · · · · · · · · · · · · · · · · | | | , | | * | |
| ALL ASIA | co. | ED 144788 | | | | and the same | * | |
| mase manives | cn _c | ED167311 | | | · · | The second of the second | | |
| ALTERNATIVE EBENCY SOURCES | | | 5 | | | | | |
| | CD - | ED 199 116 | | | | - | | |
| | | E0198005 | ED200409 ED219274 | ED200414 ED219278 | ED200496/ | ED211386 | ED212492 | ED212493 |
| ALTERNATURE EMERGY SOURCES | (11) (11)- ED212494 (2) | E0190005 E0219272 | ED219274 | ED200414 ED219278 | ED200400/ | ED211388 | ED212492 | ED212493 |
| ALTERNATIVE EMERGY SOURCES ADDRICAN CULTURE | (41)- ED212494 | EDT90005 ED219272 ED091268 ED121685 | ED219274 | ED200414 ED219278 | ED200400/ | ED211386 | ED212492 | E0212493 |
| ALTERNATIVE ENERGY SOURCES AND AUTOMOTION CONTINUE AMERICAN CONTINUE | (41)- E0212494 (2)- | ED198005 ED219272 ED091268 ED121655 | ED219274 ED121654 | ED200414 ED219278 | ED200400/ | ED211388 | ED212492 | ED212493 |
| ALTERNATURE EMERGY SOURCES AMERICAN CULTURE AMERICAN CULTURE ARENTGAN INSTORY | (41)- E0212494 (2)- | ED19005 ED219272 ED991268 ED121655 ED100660 | ED219274 | ED200414 ED219278 | ED200400/ | ED211388 | ED212492 | ED212493 |
| ALTERNATURE EMERGY SOURCES AMERICAN CULTURE AMERICAN GULTURE AMERICAN INSTORY AMERICAN INDIAN CULTURE | (41)- E0212494 (2)- | ED198005 ED219272 ED991268 ED121655 ED100660 ED216828 | ED219274 ED121654 | ED200414 ED219278 | ED200400/ | ED211386 | ED212492 | E0212493 |
| ALTERNATURE EMERGY SOURCES ANTERICAN CULTURE AMERICAN CULTURE AMERICAN INSTORY AMERICAN INDIAN CULTURE AMERICAN INDIANS | (41)- E0212494 (2)- | ED19005 ED219272 ED991268 ED121655 ED100660 | ED219274 ED121654 | ED200414 ED219278 | ED200400/ | ED211388 | ED212492 | ED212493 |
| ALTERNATIVE ENERGY SOURCES ATTENTIONS CULTURE ATTENTION OFFURE ATTENTION DISTORY ANERTICAN INDIAN SULTURE ATTENTION INDIANS TAKENTION ISSUES FORUM | (41)- E0212494 (2)- | ED19005 ED219272 ED091268 ED121685 ED100660 ED216828 ED094912 ED134526 | ED219274 ED121654 | ED200414 ED219278 | ED200400/ | ED211388 | ED212492 | |
| ALTERNATURE ENERGY SOURCES AMERICAN CULTURE AMERICAN CULTURE AMERICAN INSTORY AMERICAN INDIAN CULTURE AMERICAN INDIANS | (41)- E0212494 (2)- | ED19005 ED219272 ED971268 ED121655 EB100660 ED216828 ED994912 | ED219274 ED121654 | ED200414 ED219278 | ED200400/ | ED211386 | ED212492 | |

/*

| | A Comment | | | | | | 100 | |
|--|----------------------|------------------------|---|---------------------------------------|------------------------|----------------------|--------------------|--|
| | (1) (1) | ED121654 ED21682B | | | | | | |
| *ANIMAL DEHAVIOR | \mathbf{q} | ED160281 | | | | | , | i de la companya de l |
| - ANIMAL BEHAVIOR | (5) | ED174365 | ED174366 | ED 174367 | ED17436B | ED 176905 | , | , with |
| ANIMAL FACILITIES | co. | ED106213 | 1. 1. 1. 1. | | | | • • • • • | |
| *ANIMALS | (8) | ED196728 | ED206466 | ED206467 | | | | |
| ANIMALS | (4) | ED206465 | ED206469 | ED20906.1 | ED209062 | | | |
| AN INAL SCIENCE | (3) | ED141175 | ED144332 | ED156595 | | 35 | | |
| *ANNOTATED BIBLIOGRAPHIES | (6) | ED093682 | ËD106527 | ED 156478 | ED 159 106 | ED160528 | ED176984 | |
| ANNOTATED BIBLIOGRAPHIES | (10) | ED089993 | | ED149965 | ED106016 | ED167369 | ED179443. | ED179484 |
| | ED196788 | ED200481 | EDS15164 | | | | | |
| *Answer sheets | ci) | ED146084 | | | | | | |
| • | (I) | ED 190363 | - 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 | mmydania | | | | |
| | (3) | ED107549 | ED195399` | ED198013 | | | | |
| | (E) | ED125937 | | | | | | |
| *APPROPRIATE TECHNOLOGY | | ED160282 | - | | | | | |
| =AQUACULTURE | (1) + ₍₀₎ | ED198005. ED211375 | 44,4 | | | | | |
| *ARCHAEOLOGY | (D (G) | ED195899 | | | | | | |
| | (2) | 180 | ED183297 | | | | | |
| | (1) | ED123136 | 20100231 | | | | | |
| | S - 13 | ED17690B | | 1 | | | | |
| | (1) (4) (4) | | ED193212 | : ED 1673 12 | ED187579 | | | |
| | (6) | V | EDI36327 | | | 这一个人 是给什 | ED156595 | |
| | | ED156529 | | | | | | |
| ARKANSAS | (3) | | DD212493 | ED212494 | | | | |
| ART | (14) | | E110244174 | ED035473 | ED006499 | ED039230 | ED:108075 | ED157666 |
| The same of the sa | ED157768 | ED1602B1 | ED160283 | ED164192 | ED176909 | EM182 (36 | E0206470 | |
| | (3) | ED165972 | ED168024 | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | | | | |
| ART ACTIVITIES | (15) ED195399' | ED085247 ED201561 | | ED176916 ED206419 | -ED176911 -ED206420 | ED178231 ED200421 | Enzoruk Enzoruk | ED219206 |
| #ART EDUCATION | (<u>9</u>) | | EDOC6499 | ED087688 | ED100661. | ED1606863 | £0100687 | E0199608 |
| | ED103242 | ED157773 | 13. | | | | | |
| | (12) 10170729 | £11059948 £11059948 | ED100295 ED179421 | ED 100033 | #0107620 | EEU175722 | E0175724 | 186 |
| ERIC 185 | | 10 1 | | | hear. | nov svalla | N. | |
| | | No. | | 45.15.2 | Seasofori | APPARTUACION | | e por to the |

| | • | | • | | | | | |
|------------------------|------------------------------|----------------------------------|------------------------------------|---|----------------------------------|--|----------------------|----------------------|
| ART MATERIALS *ASIA | (1) | ED165972 . ED198017 | ED198018 | ED206517 | | • | ` | |
| ASTRONOMY | (3), | ED 024484 | ED173062 | ED 177014 | | ' | • | |
| ATHLETICS . | (I) | ED158930 | | | | | | |
| ATOMIC ENERGY | (2) | ED099199 | ED099200 | | | | | |
| *ATTENTION SPAN | (છં ∗ | ED134434 | • | · · | • | | | • |
| *ATTITUDE CHANGE | CD . | ED 196 102 | | - | | | | • |
| *ATTITUQES | . (3) | ED 16737 1 | ED167372 | ED190350 | | | • | |
| ATTITUDES | (5) | ED092437 | ED099190 | ED125865 | ED182118 | ED214752 | | • |
| *ATT TUDE TESTS | CD . | ED125865 | | • | | | | |
| AUDIENCE PARTICIPATION | (3) | ED201422 | ED201423 | ED201424 | • | | | 1 2 |
| *AUDIOVISUAL AIDS | ≠, (D) | ED210172 | | , , | | , | • | 1 |
| AUDIOVISUAL AIDS | (11) ED166016 | ED034104 ED196728 | ED056873 ED201422 | ED056874 ED201423 | ED089899 | ED093682 | ED096085 | ED121567 |
| *AUSTRALIA | (3) | ED147222 | ED147223 | ED 156595 | | • | | : |
| AUTORIOGRAPHIES | \mathbf{a} | ED125937 | • | • | , | · . | | |
| AUTOHATIC INDEXING | \mathbf{O} | ED167393 | • | • | | | | |
| *AUTOCOBILES | (4) | ED153844 | • | • | 47 | • • | • | |
| BALTIMORE | CD _i | ED051012 | | | <i>,</i> * | | • | ,. |
| *BASIC SKILLS | (5) | ED120081 | ED193053 | ED 196704 | ED199096 | ED202719 | | |
| BASIC SKILLS | (5) | ED147581 | ED147582 | ED200418 | ED201523 | ED214841 | | |
| ≈BEDAVIOR | (2) | ED036223 | ED176905 | , ; | | | | |
| BEHAVIOR | (D | ED09919 0 | | | | • | | |
| *BEHAVIORAL OBJECTIVES | . (2) | (ED169256 | ED200381 | | • | ~ x | | |
| BEHAVIORAL OBJECTIVES | (21) ED086522 ED152643 | ED059958 ED087188 ED169563 | ED061 126 ED087 189 ED169564 | ED062234 ED092358 ED206420 | ED064196 ED093633 ED206421 | ED066407 ED093634 ED219278 | ED070680 ED123034 | ED070681 ED147216 |
| *DEHAVIOR CHANCE | ci)- | ED086522 | • , , , | · · · · · · | 200 | The second | | |
| DELAVIOR CHANCE | (2) | ED187485 | ED200381 | | | · · · | · | |
| DEHAVIOR DEVELOPMENT | (D) | ED055864 | | • • • | | The second of th | | |
| BELIAVION PROBLETS | (2) | ED170896 | ED187485 | • | | | <u> </u> | |
| DEHAY TOR PROBLEMS | CD . | ED200381- | | ran un la | | | - | × 20 × 20 |
| BEHAVION STANDARDS | ~(2) | ED030222 | ED030224 | • | | <u> </u> | | 188 |
| a o ciumits | (i) | ED142481 | | A | EST COPY AV | IAÌLARLE | | |
| FRIC | | | | _ | AND UN | Tem to be | | |

| | | ٠ . | | | - 653+ | • • | | |
|-------------------------|--|---|--|--|--|--|---|--|
| BIBLIOGRAPHIES | (14) ED134536 | ED028086 ED134537 | ED049917 ED134538 | ED062176 ED141953 | ED083117 ED152643 | ED093682 ED167413 | ED121569 ED179443 | ED134535 |
| *BICYCLING * | (1) | ED 18486 I | | | , | | - | |
| BIOGRAPHIES | , (I) | ED125937 | | | | - | | 180 |
| *BIOLOGICAL INFLUENCES | ώ` | ED2 19287 | • | • | r - | .~ | | • • • • • |
| BIOLOGICAL INFLUENCES 💠 | ['] (5). | ED086482 | ED086483 | ED086484 | ED086485 | ED0864B7 | , | • |
| *BIOLOGICAL SCIENCES | (11) ED1629 05 | ED100667 ED164334 | ED108890 ED193055 | ED137063 ED219234 | -ED141175 | ED157757 | ĘD157763 | ED157770 |
| BIOLOGICAL SCIENCES | (15) ED157834 | ED028086 ED157833 | ED099235 ED157836 | ED128163 ED157837 | ED141159 ED167410 | ED157762 ED173057 | ED157768 ED195389 | ED 157771 ED 2 I 1358 |
| *BIOLOGY | (16) ED167421 ED219287 | ED034676 ED17573 0 | EĎ946781 ED177012 | ED058127 ED179416 | ED180899 | ED160815 ED100665 | ED100777 ED193047 | ED 10 1945 ED 200409 |
| BIOLOGY | (47) ED055015 ED086554 ED097221 ED157757 ED179412 | ED0 17377 ED071264 ED006556 ED100778 ED174364 ED180808 | ED002220 ED071265 ED086556 ED100200 ED174365 ED180813 | ED933844 ED071266 ED986557 ED133219 ED174366 ED191747 | RB035540 ED071267 ED087168 ED133220 ED174367 ED194306 | ED044295 ED086522 ED0871B9 ED134433 ED174368 ED196731 | EB051993 EB036552 ED092358~ ED134485 ED174435 ED198012 | EB053946 ED986553 ED093619 ED135649 ED174442 ED206467 |
| *BIOLOGY INSTRUCTION | (5) | ED174364 | ED174365 | ED174366 | ED174367 | ED174368 | ` | |
| #airds | (-į) | ED206469 | ور | ٠. | | | | |
| BIRTH | (D) | ED214842 | | | | | • • | • • ; • • |
| BIRTH RATE | (5) , | ED111716 | ED120046 | ED160528 | ED164417 | ED171597 | 1 | |
| BOATING SAFETY | (i) | ED183297 | A | • . | MA. | | • | |
| ≈B00K3 | \mathbf{O} , | ED179443 | • | • | , * | | - 100 | , , |
| BOOKS | $(\mathbf{O}_{i}) = \mathbf{v}_{i}$ | ED179484 | | • | | | o ' | · · · · · · · · · · · · · · · · · · · |
| **BOTANY | (3)/ | ED103245 | ED160286 | ED174367 | | | • , | |
| BOTANY | (14) ED183368 | ED101942 ED193055 | ED103246 ED196728 | ED157680 ED200409 | ED175593 ED204105 | ED175594 ED209061 | ED175724 ED209062 | ED175736 |
| *DRINE SHRIMP | , (1) | ED103233 | F . s | 7. | | · ; | / | . • |
| #BRONFENBRENNER (URIE) | (1) · | ED193410 | • | | | ·. '' · · · | | • |
| *BUILDING DESIGN | (D) | ED219276 | | 1. | | | : | |
| *BULLETIN BOARDS | (p) | ED086500 | • • | · . | , | | • | / |
| *BURROS | (1) | ED162905 | · · · · · | • | | ř. | | • |
| BUSINESS | (2) | ED150069 | ED202717 | | | *; | | |
| *BUSINESS EDUCATION | $\mathbf{q}_{\mathbf{p}}$ | ED100689 | | | a Name | | • - | |
| *CALINQUALA | (16): ED213581 | ED006402 ED213582 | ED086483 ED213683 | ED086484 | edodgább ST COPY-ÁV | | ED086487 | ED213589 190 |
| ERIC 189 | | | | DE | ស្សា មូមក្រក់ វិទ | ETBS. PS. PSR | | |

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| CALIFORNIA *CALIFORNIA (LOS ANGELES) | | (3) (1) | ED063989 ED171807 | ED106,088 | ED156529 | • | • | • | • | |
| *CALIFORNIA (MARIN COUNTY) | | , (D | ED129535. | | • | | • | | | • |
| CALIFORNIA (RIVERSIDE) |) = - | . (2) | ED120068 | ED120969 | | • • • • | • • | • | • | |
| *CAMP COUNSELORS | • • • • • | · (1) | ED038222 | •, | ***** | | • | . * | | |
| *CAPPING | | (8) ED216 828 | ED033812 | ED036222 | ED038223 | ED038224 | ED087576 | ED116910 | ED175592 | |
| CAPPING | - | (,14) ED183297 | ED027991 ED184734 | ED096085 ED186246 | ED097211 ED196577 | ED130820 ED204084 | ED144829 ED213163 | ED173062 ED213164. | ED176905 | |
| Canada | · - | (6) | ED055915 · | ED055018 | ED201421 | ED 20 1422 | ED201423 | ED201424 | `. | • |
| CAPE HATTERAS LICHTHOUSE | | (1) ,~ . | ED214792 | \$ * | | | | | | : |
| SCAREER AWARENESS | | (2) | ED179792 | ED211389 | , - | | , | | .1 . | |
| CAREER AWARENESS | | $-\mathbf{co}$ | ED179793 | | | | • | | | • |
| *CAREER CHOICE | • | , (1) | ED108876 | | ٠. | | | o | 18, | |
| *Career development | · | (I). · | ED169256 | | | | | • | | • |
| CARSER DEVELOPMENT CENTERED PROJECT | CURRICULUM | est (I) | ED169256 | | , | | | | | |
| *CAREER EDUCATION | • | (3) | ED108876 | ED169256 | ED182131 | | | | m, | |
| CAREER EDUCATION . | • • | (4) | ED098096 | ě | | | | | | `^ |
| CAREER EXPLORATION | | . (1) _ | ED174371 | | | | | | | |
| CAREER PLANNING | | CD . | ED183368 | | | | 329 | | | , |
| CAITTOGRAPHY | | (2) | ED165974 | ED170141 | 15 | | | • • • | | . • |
| CASE STUDIES | • | (15) ED125931 | ED062234 ED134526 | ED120049 ED156593 | ED120068 ED156594 | ED 120069 ED 156595 | ED125925 ED157820 | ED125928 ED195396 | ED125930 ED213163 | i. |
| *CASE STUDIES (EDUCATION) - | • ′ | CD C | ÉD09 9 190 | | | · · | | , n | | |
| CATAWBA RIVER | . , *. | (4), | ED218160 | | में लोजहीं राख के लोजहीं राख | | * * . | مے ، | , 409 | |
| *CAUSAL RELATIONSHIPS | | ₅₈ (-1) | ED 149594 | | | | | | | |
| SCENETERIES | · 1 | (2) | ED160283 | ED164192 | | \ | Service Control | | | • • |
| -CEMETERIES | -1.* - | CD Syg | ED165976 | 9 1 9 | of the second o | | Secretary of the | • • | | |
| *CENSUS FIGURES | | in the second | ED202765 | | Sales and the sales and the sales are a sales and the sales are a | | | · · · · · · · · · · · · · · · · · · · | | · |
| GHANCE- | | (i) | ED201561 | | | * * . | • | • • • • | | |
| #CHANGE AGENTS | | (1) | ED 156090 | ٠. ٠ | 3 | | | • | | |
| CHANCE ACENTS | | · (1) | ED196102 | ;/- | - ,* . | Best copy | AVAILABLE! | * - | *** | |
| STRATEGIES | L. C. | CD 📆 | ED156594 | 1 / 1 | | 1.20 | The Art of the | San a series | 192 | ٠. ٠ |
| <u>ERIC</u> 1.91 | | | | . 1,60 f | | | | | | |

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|--------------------------------------|-------------|----------|--------------|----------------------|----------------------|----------------------|------------------|----------------|------------------|---------|
| CHANCE STRATEGIES CHANCING ATTITUDES | * : | યા(| (4) (3) | ED120068 ED125938 | ED120069 ED156478 | ED156593 ED164414 | ED187485 | | , – | • |
| CHARTS: | | • | (1) | ED202765 | • | | | | • | |
| *check lists | • , | | (1) | ED184734 | _ | | | | | • |
| "CHEHICAL ANALYSIS. | <i>></i> | ſ | (1) | ED157758 | | • | | • • • | • | |
| CHEHICAL INDUSTRY | | <i>)</i> | (1) * | ED202724 | | • | | | • | ٠, |
| CHECTCAL REACTIONS | _ | | (D) . | ED079048 | | | | | | |
| *CHC.ALSTRY | - | • | (2) | `ED093599 | ED193048 | | | • | , | |
| CHLIMSTRY | | | (5) | ED017377 | ED053946 | ED099234 | ED157758 E | 0194302 | | |
| SCHILD DEVELOPMENT | | • | (1) | ED193410 | : | - | | • | . • | |
| CHILDHOOD NEEDS | | • | (D) \$ | ED215926 | • | 4 . | • | • | , | |
| TOTAL LANGUAGE | | · · | (1) | ED149594 | • | • | • | ٠, | • • • | , . |
| . CHILD REARING | • | . • . * | (D) | ED147216 | • • | • | | | • , | |
| -CHILDREN | | | (2) | ED 147216 | · ED193410 | | • | * | • • | |
| CHILDREN | | | (1) . | ED204084 | | | • | | • | |
| "CUILDRENS ART | | | * CD | ED 168824 | • | | | ` | | |
| "CHILDRENS BOOKS. | | \$ ° | (i) . | ED079048 | | | | | | 17: \ |
| *CHILDRENS GAMES | | | (2) | ED167311 | ED198980 | . ` | • | | | |
| SCHILDREES LITERATURE | | | (2) | ED179443 | ED182763 | | ٠ | ** | - | - [|
| · CHILDRENS LITERATURE | · | | (1) | ED179484 | <u> </u> | • | · · | | <u>.</u> | |
| *CHIBESE CULTURE | - | • | ຼືເກ່າ. | ED121656 | | | • | · · | | |
| CITIZEN PARTICIPATION | ٠. | | , (2) | ED171466 | ED 188860 | ·, `. · | | * . | - , · | ···' |
| CITIZEN PARTICIPATION | | _ | (2) | ED200397 | ED201508 | | • | • | [, , | *** |
| CITIZEN ROLE | | • | CD | ED104794 | | • • | | | ••• | ١, |
| CITIZERSHIP | . , | | (3) | ED051011 | E0051012 | ED059958 | 4 | . / | • | ; , |
| CITIVERSHIP EDUCATION | | : | (1) | EĎ182606, | • | | | • | | |
| *CITY DEMOCRAPHY | | | (2). | ED120048 | ED166301 | | * * * * | | | |
| CITY IMPROVEMENT | • | | (r) | ED061126 | , | | _ | 30 · | ** ** | |
| CITY PLANNING | • • • | | (7) / | ED045350 | EB051012 | ED061126 | ED081601 EI | 0092377 ED1: | 20048 · ED174484 | 4 |
| CITY PROBLETS | • | 1 | (4) | ED061126 | •ED064 #87 | ED132011. | ED174484 · | ., | | |
| CITY PROBLEMS | | | (6) | ED051012 | ED056015 | ED055940 | ED087608 E1 | 129048 ED1 | 21653 | s. |
| *CIVICS | - 4 | | (2) | · ED113215 | ED 1530/44 | • • | | | | V. 🙀 |
| ERIC 193 | , | | • | / ** | • | . Bi | EST COFY AVAIL | ASLE | 194 | · }-// |

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| *CIVIL DEFENSE CIVIL LIBERTIES | w. | (2) (5) | ED 19 1697 ED 15 3923 | ED19 1698 ED179436 | ED 183456 | ED214838 | ED215921 | .1 | | |
| TCIVIL RIGHTS | 1 | (1) | ED202940 | | | | | | | |
| CIVIL RIGHTS LEGISLATION | · · · · · | ்ப | ED202940 | | • | | | ₹ | | f |
| CLASS ACTIVITIES | ·. • . | (40) ED152541 ED178350 ED184863 ED190346 ED216081 | ED071264 ED173072 ED160826 ED184864 ED190350 | ED071265 ED173417 ED182137 ED184569 EDJ91743 | ED071266 ED174432 ED183392 ED186231 ED191745 | ED071267 ED174479 ED184017 ED187555 ED191747 | ED087188 ED175728 ED184859 ED188860 ED191748 | ED087189 ED175729 ED184860 ED188919 ED191749 | ED123136 ED177013 ED184961 ED190344 ED202963 | |
| CLASS ACTIVITIES | | (47) ED121653 ED157818 ED167452 ED179794 ED186246 | ED033812 ED121656 ED157819 ED173115 ED179795 ED186281 | EB992998 ED135690 ED157529 ED173159 ED186832 ED186315 | ED098100 ED135694 ED164414 ED173163 ED182418 ED186316 | ED116981 ED138527 ED165976 ED175739 ED183363 ED182866 | ED118526 ED108538 ED167449 ED177012 ED183374 ED196353 | ED129068 ED150783 ED167450 ED177015 ED124865 ED191697 | ED120069 ED157817 ED167451 ED178335 ED184875 ED191698 | |
| *CLASSROOM DESIGN | , , , , , | (D) | ED065309 | | | • | • | | • | |
| CLASSROOM CAMES | | ` (7) | ED081595 | ED089899 | ED 125925 | ED167449 | ED16745Q | ED167451 | ED167452 | |
| CLASSION GUIDANCE PROGRAMS | | (D) | ED179896 | ٠. | • | • | , | • | • | |
| "CLASSROON MATERIALS | | (2) | ED144786 | ED144787 | | | · · | | • | |
| CLASSROOM HATERIALS. | _ | (3) | ED152541 | ED159106 | ED 166 060 | | 4 ** | | ; | |
| CLASSROOM TECHNIQUES | • | (\mathbf{a}) | ED134526 | | • | | | , | \ \ \ | |
| *CLIHATE, CONTROL * | | (D | ED219270 | • | | | | • | | , |
| CLIMATIC FACTORS | , | (3) | ED130927 | ED156595 | ED165975 | | | | | • |
| #COAL / | <u> </u> | (4) | ED219274 | | مر | - | <u> </u> | | 1 | Ĺ |
| GOAL | • | · (D | ED179375 | • | | | | | | • |
| , GOASTAL ZONES | ۰ ر سپ | . (4) | ED200453 | ED200454 | ED206468 | ED211373 | | • | | |
| COASTAL ZONES | 1 | (5) | ED198010 | ED198011 | ED198013 | ED211358 | ED211389 | | | |
| COEDUCATION | _ | , (1) | ED175590 | - | | | | | * / | |
| ±COCHITIVE DEVELOPMENT | 1/ | O | ED128081 | • | | 1 | | | 1 | |
| COCHITIVE OBJECTIVES | } | (7) | ED055018 | ED059926 | ED062182 | ED064196 | ED098084 | ED130927 | ED150079 | • |
| *COGNITIVE PROCESSES | | (i) | ED211361 | | | | | , | | • |
| COCUITIVE PROCESSES | | - (D | ED 154999 | | ! | | • | • 1 | | |
| COHORT ANALYSIS | • | $\hat{\mathbf{G}}$, ϵ | ED171597 | | • | • • | | K. | | |
| COLLUCE PROGRAMS | \ | (1) | ED201501 | | · | • | • | , | 1,2 | |
| #COLLEGE SCIENCE | | (1) | ED2 19287 | | i in | `at . * ec | M-SUAN BRI | | | |
| COLOR | | (D) | ED103235 | ÷ | · 1 | 0251 601 | Y AVAILABLI | | 100 | • |
| ERIC 195 | | • • • • • • • • • • • • • • • • • • • | | | | · • | • | | 196 | ر بردس |
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| | • | | • | | | 1. | . • | • |
|-----------------------------------|------------|--|----------|------------|------------|-----------|-----------|-------|
| COLORADO COLORADO (DERVER) | (2) (1) | ED176908 | | | • | 1 | · · | ٠. |
| COLORADO (JEFFERSON COUNTY) | (1) | ED1701 | , | , | • | | . , , . | |
| COLUMBIA | (I) | ED051012 | | | • | • | • | |
| COMMENCIAL ART | α | ED167312 | | * * | • | | | |
| *COMPORICATIONS | m. | ED135694 | | • | | | • | |
| COMPLHICATIONS | ന് | ED051012 | , | • | • | 1 | • | |
| MCONTIUM ICATION SKILLS | (1) | ED149843 | , | | | • | | |
| CONTRACTION SKILLS | (2) | ED055940 ED196102 | • | , | • | | • | |
| COMPONICATION, (THOUGHT TRANSFER) | (2) | ED156593 ED197924 | | | | | | |
| COMMUNISH | . (1) | ED147223 | | i | • ' | | | |
| *CONSTUNITY ACTION | (4) | ED120068 ED120069 | ED199092 | ED200435 | | • | • | |
| COMMUNITY ACTION , | (4) | ED058127 ED059947 | ED196724 | ED200414 | · · | | | • |
| COUNTRY ATTITUDES | (2) | ED151297 ED196102 | | , . | | | | |
| CONTUNITY CHANGE | (2) | ED120069 ED156593 | • | • | | , | , | |
| COIEUNITY CHANGE | (1) | ED120068 | | | | • | , | |
| *COLLUBITY CHARACTERISTICS | (1) | ED184862 | | • | _ | | 1 ** : | |
| doler ity characteristics . | (1) | ED1663Ø1 | | | • | | | |
| COLLIUHITY COOPERATION | (2) | ED157666 ED171466 | | 4 | <u>,</u> | . | | |
| PODIDESTITY DEVELOPMENT | (1) | ED200435 | | • | | | • | |
| COLLARITY EDUCATION | (1) | ED200397 | • | | | 4 | | |
| COLLEGITY HEALTH | (1) | ED077723 | | | • | | • | |
| COLLIGHTY HEALTH SERVICES | (1) | ED193028 (| | • | | • | | |
| ; coil. (ity involvenight | (5) | ED106057 ED106213 | ED135656 | ED155069 | ED219272 | · ' · ` ^ | | |
| " "CGILLOHITY PLANNING | (12) | ED045350 ED133207 ED133216 ED133217 | ED133208 | | ED433210 | ED133211 | ED133212 | |
| 1 | ED133215 | · · · · · · · · · · · · · · · · · · · | ED133220 | ED184866 | 3 | , ç | 1 | |
| CONSTRUCTOR PLANNING | (2) | ED133218 ED103219 | ED196724 | ED104700 | • | | • | |
| COMMUNITY PROBLEMS | (4) | ED141081 ED194349 | | ED196725 | | | | |
| CONTITY PROBLEMS | (4) | ED173086 ED201508 | ED201509 | ED201510 ' | | | | |
| CONTRACTOR PROCESSING | · (1) | Ep200435 | nno.com | 4 | • | ' C | | • |
| -commuty resources | (3) | ED067233 ED106213 | | DDIAGOOS | #D154000 | ED176911 | Fn:07574 | |
| CONTINUALTY RESOURCES | . (7) | ED058127 ED059926 | ED059950 | E9160283 | ED176909 | FD146A11 | EDIO191A | |
| ERIC RESPONSIBILITY | (I) | ED071836 | | BEST CO | py availab | LE | 198 | |
| 197 | , | - | | | | • | | · – · |

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|-----------------------------------|---|----------------------------------|----------------------------------|----------------------|----------------------|----------------------|----------------------|-----------------------|
| *COMMUNITY ROLE CONNUNITY ROLE | (1) · · · · · · · · · · · · · · · · · · · | ED155069 ED064196 | | ٠, | | | 4 | |
| COMERUNITY SERVICES | (1) | ED216081 | • | | • | • | • | t |
| RECEINURITY STUDIES | (2) | ED 1673 12 | ED167317 | • | * | a. | .• ` | |
| COAMBILITY STUDY | (5) | ED051011 | ED128289 | ED165977 | ED174371 | ED194349 | | , |
| COLHUNITY STUDY. | (8) ED138527 | ED059926 | ED061126 | ED066407 | EB067233 | ED071917 | ED098098 | ED098100 |
| CONFIDENTY SUPPORT | (2) | ED171466 | ED174371 | • | | • | | |
| CONSIDERTY SURVEYS | (,1) | ED167317 | • 1 | | • | · • | | |
| "COMPARATIVE ANALYSIS | . 643 | ED 157817 | ٠ . | | . e | • | • | , ` . |
| COMPARATIVE ANALYSIS. | άp | ED215921 | , | • / | | ٠, | . • | · ,] [4]. |
| "COMPARATIVE EDUCATION | (2) | ED179484 | ED2065 17 | | | | • | 705 |
| COMPARATIVE EDUCATION , * | (2) | ED198017 | ED198918 | , | | 1 | . • • | • |
| *COMPARING POLITICAL EXPERIENCES | '(2) | ED120068 | ED 120069 | • • | • | | | •• |
| COMPASS 'ACTIVITIES . , | | ED165974 | . | * ' | | • | ` | • |
| COMPASS READING | (મ) 🦿 | ED210172 | · ' | , | ' a ' | | • | • |
| *COUPETENCY BASED EDUCATION | · (1) | ED219278 | | • | | • ' ' | , . | |
| COMPLIANCE (LEGAL) | Ó 🗥 | 'ED202940 | | 5 1 | | | 4 | |
| COMPOSITION SKILLS (LITERARY), | (I) | ED#49843 | | r | | , | | • |
| COMPREHENSIVE PROGRAMS | $\ddot{\mathbf{o}}$ | ED077723 | | | | | , | |
| CO: PUTATION . | .(2) | ED100668 | ED 100669 | | • | | • | |
| COMPUTER ASSISTED INSTRUCTION | (18) ED167371 ED179416 | ED113269 ED167372 ED179417 | ED167366 ED167373 ED196702 | ED167366 ED167374 | ED167367 ED179411 | ED167368 ED179412 | ED167369 ED179414 | ED167370 ED179415 |
| COMPUTER ASSISTED INSTRUCTION | (4) | ED055940 | | • ~ | | • | | . 1 |
| COMPUTER ORIENTED PROGRAMS | (1) . | ED113269 | | • " | • | • | | • |
| *COMPUTER PROGRAMS | (4) | ED149965 | | | \ . | | | • |
| COMPUTER PROGRAMS | (3) | ED1794 | ED179412 | ED196702 | 1 , | , · . | | •• |
| a star A | (3) | ED190398* | ED190399 | ED199092 | : | * * | <u>.</u> | • |
| | · (ad) | ED098084 | ED121568 | ED 134535 | · ED134536 | · ED 134537 | ED134538 | |
| | ER157662 | | ED171475 | ED214794 | | | | * # |
| *CONCEPT TEACHING | (15) ED 13569 4 | ED038207 ED157835 | ED157836 | ED134535 ED167837 | ED134536 ED167410 | ED134537 ED167452 | E0134538 E0176911 | ED135690 ED214838 |
| CONCEPT TEACHING | `(23) EDØ59958 | ED051011 ED064196 | ED951012 ED973032 | ED9759 15 | E0055848 | ED059947 ED100778 | E0059949 E0120045 | ED059950- ED120068 |
| ERIC 199 | ED120069 | ED128081 | ED146034 | E0167634 | ED167449 | | ED167451 | ED206517200 |
| BEST COPY AVAILABLE | | | 1 | | | • | | ૐ |
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| | • | 7 " | | • | | • | | | • |
|--|--------------|---|---|---|--|--|---|---|--|
| *CONCEPTUAL SCHEMES CONCEPTUAL SCHEMES | | (4) (10) ED166015 | ED046826 ED066398 ED166032 | ED064196 ED086557 ED176957 | ED141427 ED166010 | ED166009 ED166011 | ED166012 | ED166013 | ED166014 |
| CONFLICT | • | (2) | ED073032 | \ED125928 | • | • . | 7 3 | • • • | |
| CONFLICT | • 1 | (3) | ED125925 | ED 125933. | ED179436 | • | ٠, | | • |
| "CONFLACT RESOLUTION | | (n) | ED093743 | • • • • | <i>ب</i> | , | • | | |
| CONFLICT RESOLUTION | • | (4) | ED1 18526 | E0125925 | ED125933 | ED153923 | | | |
| *CONGARVATION AND ENVIRONMENTER | NTAL SCIENCE | (\mathbf{D}^{θ}) | ED033784 | , <u>,</u> | • | | - - | . # | |
| CONSERVATION (CONCEPT) | | (2). | ED125928 | ED125938 | | , | , , , , , , , , , , , , , , , , , , , | | |
| "CONSERVATION EDUCATION | | (117) ED034676 ED03467218 ED099216 ED100664 ED163196 ED162498 ED167450 ED179416 ED179416 ED190653 ED201422 ED211378 ED211378 | ED017377 7ED035540 ED071836 ED099217 ED100665 ED100665 ED104639 ED167451 ED189808 ED190398 ED211379 ED218154 | EB924434 EB941767 ED9899218 ED109554 ED109666 ED106055 ED154996 ED167452 ED1C9813 EB190399 ED201424 EB211588 ED218162 | ED027991 ED044296 ED097219 ED099219 ED100691 ED106095 ED457666 ED167454 ED16363 ED193054 ED205395 ED212492 | EB028086 EB05 1993 EB097221 ED099220 ED100657 EB100692 EB126928 EB126928 EB184416 EB194440 ED212493 EB212493 | ED2 19 27 0 | ED053844 EB062234 EB099240 ED099240 ED109660 ED101937 ED144824 EB162897 ED176966 ED186246 ED186246 ED199085 EB297818 EB214752 ED2192714 | ED100644 ED100661 ED102031 ED144825 ED178035 ED1780348, ED201421 ED210171 |
| CONSERVATION EDUCATION | | (141) EB059949 ED092437 ED092437 ED09232 ED160659 ED160670 ED10690 ED101941 ED106054 ED121569 ED134449 ED1564B5 ED167355 ED188812 | EB219274 ED933784 ED959950 ED0999200 ED099233 ED100662 ED100673 ED101942 ED114254 ED114254 ED125868 ED135656 ED170135 ED170135 ED180814 | EB099254 ED16963 ED169594 EB169693 ED106957 ED116910 ED125555 ED157560 ED1776138 ED184735 | ED933812 EB93989 EB999186 EB999235 EB100667 EB1006976 EB1006974 EB116947 EB116947 EB116947 EB116947 EB117446 EB1174461 EB1174481 EB1174481 | ED100686 ED100096 ED1007460 ED1107460 ED119962 ED130821 ED141001 ED157765 ED1757265 ED1757261 | E02.19278 ED045380 ED091595 EB099189 ED0904229 ED166649 ED166687 ED160687 ED100874 ED101959 ED10959 ED119963 ED13632 ED141994 ED157723 ED179415 ED17554 | ER099191 EEC099230 ED109650 ED109628 EB100698 EB1008291 ED108275 ED1-19964 ED130231 ED141116 ED130239 ED1-20209 ED1-20209 | ED059948 -EG052079 -EG052079 -EBC99192 -ED099201 -ED100656 -ED1006778 -ED100778 -ED100876 -ED119965 -ED134448 -ED152541 -ED162905 -ED1282568 |
| *CONSERVATION (ENVIRONMENT) CONSERVATION (ENVIRONMENT) | - | ED188936 ED21136 ((19) ED157835 ED175724 (28) ED141157 | ED190350 EB213580 EB098096 ED157836 ED188008 ED107549 ED149986 | ED194:52 ED210:01 EB99:7/08 ED157:37 ED190054 ED111662 ED156594 | ED218154 | É0150133 | ED257824 ED214041 ED152531 ED174431 ED125923 ED158302 | ED157662 ED174435 ED125931- ED158369 | ED157834 ED157834 ED174436 ED130927 ED160418 |
| ERIC CO. | (CANADA) | ED162886 ED201422 | ED147700 ED165975 ED201423 ED201421 | EB167454 EB201424 | ED174432 ED200063 | ED180413 ED29647 I | ED183363 | ED1961622 | EB199085 202 |
| ENIU AA4 | | | | ● . | 500 760m | V stifftenie | | જારું. | - |

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|---------------------------------------|------------------------------|---------------------------------------|-------------------------------|--------------------------------|---------------------------------------|--|----|
| CONSTRUCTION COSTS CONSTRUCTION NEEDS | * (I) | ED 125930 ED 125925 | | , | • | | |
| *CONSTRUCTION (PROCESS) | ĊD | ED080361 | | | • | | , |
| CONSTRUCTION (PROCESS) | (5) | ED174364 ED174 | 365 ED174366 | ED174367 ED17 | 4368 ` | • | • |
| *CONSUMER ECONOMICS | $\mathbf{\hat{q}}$ | ED167312 | | • | | • | |
| CONSUMER ECONOMICS | (3) | <u>ED059950ED207</u> | 0 14 - E021592 6 | | • | • • | |
| CONSUMER EDUCATION | (6) | ED141081 · ED147 | 569 ED147590 | ED151297 ED17 | 9421 ED 180820 | | == |
| CONTENT ANALYSIS . | $\mathbf{C}\mathbf{D}$, z | ED070635 | . | | , , | | |
| *CONTENT AREA READING | ر ٔ (3) ' _ | ED197996 ED197 | 997 ÉD197998 | | | | • |
| *CONTROVERSIAL ISSUES | (D) | ED073032 | • | • | | •••••••••••••••••••••••••••••••••••••• | |
| CONTROYERSTAL ISSUES (COURSE CONTENT) | (I) | .EDŹ 19327 | | • • | • | | 7 |
| *COOKING INSTRUCTION , | . (2) | ED160282 ED160 | 284 | • | % · | • * | |
| *COOPERATIVE PLANNING- | · co | ED 153923 | | , , | | | |
| CONE CURLICULUM | $^{\circ}$ $^{\circ}$ | ED024484 | | / | • | | |
| / *COS1S | σ | ED147216 | | • | | 7 | |
| COSTS | ω, | ED167312 . | | 3. | | | |
| COURSELING | (I) | ED 187485 | _ <u></u> | | <u></u> | | |
| **COURSELING INSTRUCTIONAL PROGRAMS | CD | ED170896 ` | ~. <i>'</i> | • | | | |
| COURFELOR ATTITUDES | Ġp" | ED 187875 | \sim | | | • | |
| "COURSELOR ROLE | $\mathbf{O} \sim \mathbf{O}$ | ED175592 | , <u>~</u> | | • | | • |
| COURSTLOR, ROLE | (2)" | ED038222 ED197 | 924 | | • | | |
| COURSELOR TRAINING |) (O) + 5 | ÈD038222 | - | • | | | |
| *COURSE CONTENT / | . (5) | ED033853 ED043 | 501 ED055864 | ED123095 ED17 | 0139 , | | ٠ |
| ACOURSE CONTENT | (14) ED156483 | ED033B62 / ED059 ED156484 / ED156 | 901 `ED120068 485 ED170153 | ED156479 ED15 ED183297 ED20 | 6480 ED156481 0279 EB219567 | ĚD156482 | • |
| "COURSE DESCRIPTIONS | Ç Ó , | ED144788 | • | 1. 1. | • | , | |
| COURSE BESCRIPTIONS | (5) | ED064187 ED085 | 163 ED037688 | ED103294 ED21 | 2519 | • | ٠ |
| *COURSE OBJECTIVES | $\sim \alpha$ | ED120069 1 . | | | .) . | ` ` | |
| COURSE OBJECTIVES . | (6) | ED098098 ED098 | 100 ED192048 | ED123095 EB12 | B289 ED20 02 79 | | سز |
| course organization / | (2) | ED059901 ED123 | 69ÿ | | , | • | |
| #COURTES | $-$, \mathbf{co}^{-1} | ¹ ЕD200279 | · - ^ | : | • | • | |
| - COURT LITICATION | (1) | ED082982 | | · Angelog di Salama. | | | • |
| ERIC IVI ACTIVITIES 203 | (D) • (*) | ED061118 | وقر میرا | | · · · · · · · · · · · · · · · · · · · | 204 | |
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|---|-----------------------------|-----------------------|----------------------|---|---------------------------------|--|----------------------|----------------------|--------------|
| CREATIVE DEVELOPMENT CREATIVE TEACHING | (1) (1) | ED 121653 ED038207 | 4 | | | * | • | | |
| *CREATIVE THINKING | (1) · · · · | ED20 1561 5 | | | (<u>)</u> ~ | → / | | | |
| CIDEATIVE WRITING | (1)~~ | ED061118 | | . • . • . • . • . • . • . • . • . • . • | • (| , · · · | . , | 3 | |
| CREATIVITY | (1) | ED106213 | | | • | ·, · | * / | | |
| CREDIT (FINANCE) | (D) | ED202940 | • | 1.0 | | • • | ŧ | | |
| CRITE | (i) | ED 157837 | | _ | • | • | • | • | |
| CRITICAL READING | $(\vec{0} + \vec{0})$ | ED174436 | | , | | • | | | |
| *CRITICAL THINKING | (2). | ED187696 | ED 199 175 | , | | > | | , | , |
| CRITICAL THINKING | ໌ (ຊ) , ,໌ | ED174436 | ED214842 | | r | u. | | • | |
| *CROS: CULTURAL STUDIES - | (3) | ED051011 | ED120049 | ED121655 | | •• | | · • | |
| CROSS CULTURAL STUDIES | (3) | ED157817 | ED209 125 | ED218204 | | | ` | • | |
| CRUSTAL EVOLUTION EDUCATION PROJECT | $-\mathbf{co} : \bullet$ | ED216927 | - | 1 | | • | | • | (|
| *CULTURAL AVARENESS | (8) | ED091269 | ED155069 | ED183456 | ED209125 | ED216369 | | | |
| CULTURAL AVARENESS | (4) | ED167311 | ED173062 | ED212411 | ED215923 | | | 3 | |
| CULTURAL BACKGROUND | $\mathbf{co}_{\Sigma} \neq$ | ED091268 | | | | 7, | | | |
| CULTURAL BACKGROUND | (1) | ED107549 | 1 | • | , , | • `. | • ' , | | |
| CULTURAL CONTEXT | $\mathbf{O}^{(1)}$ | " ED 123 136 | · • | | . , | | , | | P |
| CULTURAL DIFFERENCES | (2) | ED151297 | ED216031 | | | • | | Š | ÷ . |
| CULTURAL EDUCATION. | (1) | ED195399 | | 2 | • | ٠. | | , <i>s</i> , | ينيار محم |
| CULTURAL EDUCATION | (4) | ED150079 [©] | 2 | | <u> </u> | | . • | • • • | * |
| CULTURAL ENVIRONMENT | (-1) | ED05101:1 | , | ` ^ ′ | | - | · | | - |
| CULTURAL FACTORS | (3) | ED091268 | ED121654 | ED121655 | • • | | • | | |
| CULTURE | . (1) | ED133215 | | | | • | | d, | |
| GULTURE CONTACT | (I) ' | ED091269 | , | man and a second | - 1764 | Control of the Contro | 7 | | , |
| CURRENT EVENTS | (4) | ED 199115 | ED200408 | ED200414 | ED200424 | | | | |
| *CURRICULUM | (14) ED144788 | ED017377 -20149981 | ED043501 ED157662 | ED086473 ED179395 | EB 08 6507 EB 18079 I | ED693682 ED182110 | ED134449 ED214752 | ED138436 | , |
| CUMRICULUM | (32) ED9365;** | KD045436 | EB045437 EB089993 | ED085247 ED092374 | ED085248 EB092395 | ED085249 | ED986552 | ED086553 | - |
| | ED12716# | ED127161 | ED128163 | ED128185 | ED134433 | ED693599 ED137140 | ED139671 | ED107471 ED147589 | • |
| | ED164341 ED180827 | ED167393 | ED140130 | ED170151 | ED170102, | ED179484 | ED180757 | ED180826 | • , |
| ≈CURRICULUM DESIGN | (4) | ED066366 | ED085163 | ED093621 | ED123095 | | | ζ | |
| EDIC CULUM DESIGN | _ (ds) | ED125855 | ED 125888 | ED164263 | E0183416 | EŅ187629 | - , | ÓΛC | |
| 205 | | | | ስምፀን ስለ | nest busa'i Ke | f P | • | 206 | |
| | <u> </u> | <u> </u> | in the second | Best G | DEA MATTON | <u> </u> | <u> </u> | | _ : |

| *CURRICULUM DEVELOPMENT | (51) ED120053 ED166032 ED178231 ED186282 ED191743 ED213583 | ED039 138 ED125852 ED167355 ED179356 ED197557 ED195544 ED215939 | ED046626 ED f25883 ED 17 1466 ED 180774 ED 187629 ED200431 ED216369 | ED064196 ED137063 ED175718 ED100827 ED108919 ED204138 ED218204 | ED066366 ED13B538 ED175722 ED180633 ED188936 ED206448 | ED070635 ED144794 ED176905 ED183357 ED190246 EB213580 | ED102046 ED159106 EB176911 ED104869 ED100350 ED210581 | ED120044 ED160418 ED176957 ED186246 ED190309 ED213582 |
|------------------------------------|--|--|--|--|---|---|---|--|
| CURRICULUM DEVELOPMENT | (47) E0080291 RD134536 ED152498 KD178232 ED190398 | ED055015 ED092374 ED134537 ED152499 ED189794 ED191697 | ED055018 ED096665 ED134535 ED155669 ED182144 ED191698 | ED055833 ED114269 ED135690 ED167666 ED167554 ED191745 | EB06 1059 ED1 169 10 ED1 35694 EB165970 ED188560 ED196726 | ED063162 ED123034 FD141950 KD166009 ED196344 ED200450 | ED071868 ED125938 ED142429 ED146909 ED140348 E0206419 | EB975233 ED134535 ED1343433 ED175910 |
| *CURRICULUM ENRICHMENT , | (9) ED176909 | ED0D2919 ED206419 | EB089899 | EB093599 | ED167401 | ED167402 | ED167469 | · ED167410 |
| CURRICULUM ENRICHMENT | (16) ED165973 ED206418 | ED035473 ED166974 | EB038207 EB165975 | ED058049 ED165976 | ED144786 ED165977 | ED144787 ED167393 | ED159075 ED174371 | ED165972 CD176905 |
| CURRICULUM EVALUATION , | (I) | ED183456 | - , | -1 | ٠ | | • | •, |
| *CURRICULUM GUIDES | (103) ED063 162 ED07 1868 ED07 1868 ED093004 EB099218 ED099233 ED101943 ED116947 ED134455 ED149980 ED164283 ED166032 | ED024484 ED063989 ED077723 ED086473 ED099186 ED099219 ED099240 ED101944 ED121568 ED137063 ED153846 ED164341 ED166301 | EB027991 EB066368 EB079068 EB097188 EB099187 EB099220 ED106049 ED123034 ED123034 ED154986 ED154986 ED165972 ED165972 | ED070635 | - EB95 10 11 EB97 1264 * EB980349 EB993619 EB999214 - EB999229 ED100676 - ED106654 EB125764 EB157683 - ED165974 EB186281 | ED05 1012 ED071265 ED080367 ED099215 ED099236 ED100712 ED107466 ED125871 ED144026 ED157771 KD165975 ED187556 | EB059961 EB671266 Elt. B0368 ED093648 ED09216 EB: 99201 ED107468 ED15588 ED158843 ED158906 ED155976 EB196726 | ED063151 ED071267 ED081601 ED097221 ED099217 ED099232 ED101942 ED114254 ED149979 ED164192 ED165977 ED204138 |
| CURRICULUM GUIDES | (73) EP979 100 EP999 188 ED121566 ED144332 ED150783 ED161727 ED177013 ED187485 | ED035473 ED080361 ED099189 ED110396 ED121567 ED144788 ED152643 ED166016 ED177014 ED188977 | ED125052 ED147501 ED158923 | ED059926 E0087570 EB099191 ED113214 ED125383 ED147532 ED176482 ED176905 ED178231 | E8959988 E8991269 E8999192 EB137056 EB147589 EB156454 EB176909 EB178232 | ED061126 EB093589 EB099210 ED113216 ED132436 ED14750 ED157681 ED176916 ED178356 | EDC62284 EL-97211 ED191907 EB113256 ED141081 ED149931 ED167632 EB176911 EB179980 | ED064196 ED097219 ED107539 ED120833 ED141933 ED159079 ED157705 ED177012 ED180774 |
| CURRICULUM PLANNING | (2) | ED033788 | EDSAGE26 | • | | ***** | • | |
| ^ *CURRICULUM RESEARCH | (1) | ED180827 | A | | | ***** | | · |
| DALLAS INDEPENDENT SCHOOL DISTRICT | (D | ED 183297 | · / / · | , s_to- | | * 545 | | |
| DARCE | (D | ED061118 | , | | | , | • | |
| *DARCKE | (1) | ED 128081 | | • | * . | • | | • |
| * *DATA COLLECTION | (1) | ED067233 | | | _ | | | 800 |
| □DAY CAMP PROGRAMS | (3) | | ED206420 | ED206421 | neor an | P16 Alless ame | | 208 |
| <u>ERIC</u> - 207 | (D) | ED142488 | 3. | | BEST CO | fy availabi | Ŀ | |

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|----------------------------|---|-------------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------|----------------------|---------------------------------------|
| DEATH | 415 | PD 171505 | | }- | | - | | |
| DECIMAL FRACTIONS | (1). (1) | ED171597 ED167401 | | · | | | | |
| *DECISION MAKING | (12) ED187606 | ED 1 132 15 ED 1903 53 | ED118526 ED190398 | ED149984 ED190399 | ED184863 ED191745 | ED184864 | ED184865 | ED 184866 |
| DECISION MAKING | (20) ED184869 ED213580 | ED082982 ED190346 ED2;3581 | ED121565 ED190348 ED213502 | ED125933 ED190350 ED213583 | ED157820 ED191697 ED219269 | ED167366 ED191698 | EB174436 ED191743 | ED 184862 ED 201561 |
| *DECISION MAKING SKILLS | (5) | ED141094 | ED149991 | ED165991 | ED166012 | ED199175 | • | |
| DECISION MAKING SKILLS | : (5) | ED055940 | ED149985 | ED151297 | ED186315 | EUTB6316 | 1 | |
| DEFINITIONS | (5) | ED 159 106 | ED160286 | ED167454 | ED2004B1 | ED218204 | | _ |
| #DELAWARE | (1) | ED123034 | | | . * | , | • | |
| *DELINCUENT REHABILITATION | , (D | ED200381 | • | | ¥. | ru. | | • |
| DEL 100 SYSTEM | (2) | ED123034 | ED123055 | | | A. | • | |
| DEMOCRATIC VALUES | (3) | ED051012 | EB093743 | ` ED135694 | , | | : | |
| *OEROCRAPHY | (10) ED171597 | ED066366 ED179417 | E0075315 E0193030 | ED 143256 | ED113269 | ED120045 | ED120046 | ED152643 |
| DENOCRAPHY | (17) [*] ED141178 ED215920• | ED 102048 ED 147216 ED 219287 | ED110396 ED176984 | ED111716 ED195396 | ED118486 ED198617 | ED120044 ED19891B | ED120049 ED202765 | ED124451 ED214842 |
| DEMORSTRATION PROGRAMS | (4) | ED167317 | ED201422 | ED201423 | ED201424 | • | | • |
| *DEPLETED RESOURCES | (D | ED 153923 | • | • | 1 | | . 🚣 | |
| DEPLETED RESOURCES | (12) ED1B2135 | ED 167449 ED 182136 | ED167450 ED2,12492 | ED167451 ED212493 | ED182131 ED212494 | ED182132 | ED182133 | ED182134 ' |
| DESCRIPTIVE LINCUISTICS | (1) | ED 149594 | | | | | | |
| DESERTS | (1) | ED2 16828 | | | • | | • | \ |
| DESICH | CD | ED 1673 12 | | | | | ,' | • 1 |
| DESIGN NEEDS . | CD | ED066308 | * | • | | | | · · · · · · · · · · · · · · · · · · · |
| DESIGN NEEDS . | (2) | ED087688 | ED147222 | | | | | |
| DESIGN REQUIREMENTS | cio . | ED219270 | | | | | ··. | |
| DEVELOPED NATIONS | (5) .· | ED 153923 | ED199120 | ED210182 | ED242411 | E0214838 | . * | |
| *DEVELOPING-NATIONS | (2) | ED125930 | ED179484 | | | · - · | | |
| DEVELOPING NATIONS | (12) ED207811 | ED 1 16981 ED 2 10 182 | ED120049 ED212411 | ED120054 ED214038 | ED147224 ED215921 | ED1539 2 3 | ED199120 | ED206517 |
| DEVELOPMENT | ci | ED125928 | | | . Also | | | |
| DEVELOPMENT | (2) | ED 125930 | ED125931 | | | 1 . | | |
| PDEVELOPMENT EDUCATION | (D / - | ED212411 | | l han | dur'i HuhilA | DIE . | 210 | |
| ERIC - 209 | | | | 9101 | | | | |

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|--|-------------------------|------------------------|----------------------|------------------------|---------------------------|----------------------|------------------------|----------------------|
| DIALOGUE *DISABILITIES | (2) (2) | ED 125928 ED 213163 | ED125930 ED213164 | | ; | | • | , |
| DISABILITIES . \ | (2) | ED 184875 | ED202940 | | | • | , . | |
| DISADVANTAGED ·· | (2) | ED214838 | ED215921 | - | | | • | |
| DISADVANTAGED YOUTH . | (1) | ED 138527 | • | | | • | | |
| · DISCIPLINE \ | $\langle \mathbf{D} $ | ED 187485 | | • | | • | | • |
| *DISCOVERY LEARNING '\ | (6) | ED034104 | ED158301 | ED158302 | . ED158303 | ED209061 | ED209062 | |
| DISCOVERY LEARNING | (40) | ED032220 | ED035540 | ED156478 | ED160285 | | | • |
| DISCOVERY PROCESSES | \mathbf{co}^{1} | ED206465 | | | • | • • | | |
| DISCRIMINATORY ATTITUDES (SOCIAL) | (1) | ED093743 | - | | | | | |
| DISCUSSION (TEACHING TECHNIQUE) | (8), | ED125928 | ED183456 | ED214842 | , - | • | | ••• |
| DISEASE RATE | (1) | ED157837 | | , | | | | |
| *DISTINGUISHED ACHIEVEMENT AWARD ENTRY | Čαį į | ED074038 | • | | , | • | | • |
| SDISTRICT OF COLUMBIA | .(2) | ED 157817 | ED 19657 | | , | | | , |
| "DIXON PUBLIC SCHOOLS IL | (2) | ED178231 | ED178232 | 75 5 | · | · | | . , |
| DOCUMENTARIES | (2) | ED120068 | ED120069 | • | | 18 | , | • |
| DRANA | (3) | ED165973 | ÉD 196 102 | ED204084 | | · | | • |
| "EARLY CHILDHOOD EDUCATION . | (I) · | ED128081 | 1 | | 1 | | | |
| EARLY CHILDHOOD EDUCATION | (3) | ED100652 | ED 168725 | ED187629 | | 6 | - ` | |
| EARTEQUAKES | (D) + | ED216927 | | , | • | | | • |
| EARTH SCIENCE | . (18) ED170141 | ED061060 ED170153 | EB063111 EB177913 | ED986557 ED179352 | ED100663- ED183374 | ED100778 ED193048 | ED133210 ED1986165 | |
| wa. | ED200410 | ED211365 | ED216927 | | | , . | | |
| EARTH SCIENCE | (31)* ED133211 | ED028086 ED133213 | EB032220 ED103438 | ED033844 ED141175 | ED033653 ED147222 | ED061061 ED157763 | ED086556 ED173062 | ED106088 ED173032 |
| • | ED 174365 ED 179355 | ED174366 ED180813 | ED174368 ED180832 | ED176960 ED183368 | ED177012 ED196731 | ED177014 ED200453 | ED177015 ED200454 | ED179353 ED206468 |
| ECCSYSTERE | (4) · | ED059948+ | | - | | | • | |
| *ECOLOCICAL FACTORS | (3) | ED083117 | ED113148 | ED125931 | • | , | | , |
| ECOLOGICAL FACTORS | (13) | ED086482 | E0086403 | ED086484 | ED086485 | ED086486 | ED@B6487 | ED104794 |
| | ED 124450 | ED125938 | ED142481 | ED147222 | ED147223 | ED218154 | , | ۲ |
| *ECOLOGY . | (115) ED059949 | ED0210116 ED059950 | ED953945 ED95995Q | Elio55015 Elio61059 | ED056873 E0061061 | ED058127 ED062180 | ED##62234 | ED059948 ED063151 |
| | E11065351 E11078096. | ED070002 ED098098 | KB077723 EU098100 | ED100670 | EB089368 ED100777 | ED086553 ED100778 | Eb097219 Eb101941 | ED097221 ED101942 |
| 211 | EB103234 (ED104794 | ED 103244 ED 106088 | ED163247 ED166213 | ED103248 ED10747 I | ED100249 ED113214 | ED103250 ED113216 | ED:103251 ED:114268 | ED103253 ED119962 |
| ~ <u>* * 1</u> | ED119963 ED133230 | ED1 19964 ED1 33231 | ED138436 . | ED124450 | ED 128 185 ED 142463 | E0100144 E0129840 | ED 133219 KD 149986 | ED133220 ED149993 |
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| | ED156479 ED173062 ED178335 | ED156480 ED174364 ED179411 | ED157757 ED174407 ED179412 | ED160286 ED174431 ED179414 | ED162905 ED174432 ED180898 | ED 166301 ED 174435 ED 180809 | | ED173057 ED177015 ED180814 |
|-----------------|--|---|--|---|--|---|--|--|
| • | ED (821 13 EB191747 ED198012 ED206469 | ED182114 ED193058 ED199085 ED209062 | ED 183363 ED 193059 ED 200453 ED 211058 | TEDTUS368- TED193060 ED200454 ED218160 | E0184865- E0194325 E0201501 | ED 188008 ED 195389 ED 205395 | ED196162 ED206465 | ED196398 ED196701 ED296468 - |
| • | (123) ED945889 EB059947 ED07 058 8 | ED024484 ED045436 ED061060 ED073913 | ED034676 ED045437 EB351126 EB375315 | ED038207 ED046781 ED062176 Id0620344 | E8038222 E8049917 E8062162 E8086522 | ED038223 ED056639 ED063939 .E6094912 | EB608224 EBCUC864 EB664196 EB666883 | ED044295 EB059926 EB068887 EE598884 |
| | EB099189 EB100712' EB113151 EB133213 | ED099191. ED101945 ED133215 ED133218 | EB099192 | | EB099216 EB199241 EB127655 EB134433 | E0099234 ED103294 EB125930 ED136455 | EB699235 ED407549 ED128163 ED125648 | ED100676 |
| | ED149988 ED157764 ED162895 ED173163 | ED154986 | ED186481 EB157034 ED167373 EB174366 | ED 156482 ED 157835 ED 167374 | ED157662 ED157836 ED169563 ED174368 | ED457760 ED157637 ED169564 ED175593 | ED157762 ED158906 ED170154 ED175594 | ED157763 ED159075 ED179152 RG175723 |
| <u>۔۔۔</u> ! | E0175724 ED182763 ED194302 ED206470 | ED177012 ED183321 ED195403 ED266471 | ED177613 ED183957 ED196728 ED209061 | ED177014 ED123374 ED159146 ED231377 | En 183416 Ed 183416 Ed 200409 | ED186812 ED186246 ED262724 | ED100832 ED102868 ED206466 | ED131656 ED190399 ED206467 |
| 4. | (3) 2 32 | ED125930 | ED147223 | ED147224 | | | • | |
| | (1) | ED147224 | ı | | | \wedge | • | 1 |
| · , | (2) 🐰 | ED125 <u>930</u> | ED147223 | | i v | • | | • |
| , | (5) { | ED125931 | ED179436 | ED2 12411 | ED214838 | ED215921 | • | |
| | (2) | ED1 16981 | ED120054 | _ | • | • | • | . 1940Q |
| • | (1) | ED157819 | | • | • | , | • | , . |
| | (5) | ED091268 | ED1538437 | ≆ED156 598 ̂ | ED156594 | EB156595 | | `\ |
| • | (6) | ED098100 | ED147216 | ED147224 | ED153923 | ED 155069 | ED174436 | |
| | (2) | ED147223 | ED147224 | | | | 27 | • |
| | (7) - | ED133208 | ED133212 | ED149985 | ED149992 | ED186281 | ED188860 | ED207824 |
| | (21# E0133217 ED173072 | ED017377 ED141157 ED173163 | EB059958 ED179351- | EB099199 EB153841 EB179436 | E0099200 ED153845 ED187554 | ED160673 ED157649 ED202717 | ED104943 ED162885 | ED133211 ED167370 |
| | (1) | ED202726 | ٠, | | | | | • |
| | (2) | ED180794 | ED207811 | | • | | | |
| | \mathbf{O} | ED046826 | • | , ' | • | 1 | | • ~; |
| , | (2) | ED059947 | ED103234 | 100 | | ; | • | · |
| -7 | (4) | ED059949 | ED059950 | ED059958 | ED062234 | | • | |
| | Φ | ED068368 | - 1 | | | • | • | |
| | (8) ED1 169 10 , | ED071264 | ED071265 | ED071266 | EB071267 | ED087188 | ED087189 | ED101937 214 |
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*EDUCATIONAL DEVELOPMENT.
                                                (4)
                                                           ED179484
*EDUCATIONAL ENVIRONMENT
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                                                           ED201421
 EDUCATIONAL ENVIRONMENT
                                                (3)
                                                           ED175590 -ED187629
                                                                                ED197924
 EDUCATIONAL EQUIPMENT
                                                           ED085163
                                                (1)
*EDUCATIONAL, FACILITIES
                                                           ED134408 -ED173115
                                                (2)
                                                           ED065309
 EDUCATIONAL FACILITIES
                                                (2)
                                                                     ED118360
*EDUCATIONAL GARES
                                               - (8)
                                                           ED081595
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 EDUCATIONAL CAMES
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                                                          ED130927
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ED205346
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 EDUCATIONAL INNOVATION
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                                                (5)
                                                           ED038207 ED074048 ; ED113269
 EDUCATIONAL LEGISLATION
                                                (2)
                                                           ED063989 ED151123
 EDUCATIONAL MEDIA
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                                                (1)
*EDUCATIONAL METHODS
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 EDUÇATIONAL METHODS
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 EDUCATIONAL NEEDS
                                                                     ED215999 ED218294 ED219$27
                                                (4)
                                                           ED046826
×EDUCATIONAL OBJECTIVES
                                                          ED 187629
                                                (2)
                                                                     ED194261
                                                                     ED134455
ED157662
ED165976
 EDUCATIONAL OBJECTIVES
                                                          ED066407
ED150079
                                                                                ED134535
ED158906 -
                                                                                           ED134536
ED164417
                                                                                                                 ED135694
                                                (44)
ED 147222
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 EDUCATIONAL PARKS
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 EDUCATIONAL PHILOSOPHY
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≈EDUCATIONAL PLANNING
                                                (1)
                                                          `ED 1889 36
                                                                     ED108675 ED152498 ED152499
MEDUCATIONAL PROGRAMS
                                                (5)
                                                           ED108874
                                                                    ED967202 ED999214
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 EDUCATIONAL PROGRAMS
                                                (7)
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 EBUCATIONAL QUALITY
                                                (1)
~EDUCATIONAL RESEARCH
                                                           ED134408
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 educational research
                                                (7)
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SEDUCATIONAL RESOURCES
                                                           ED125852
                                                                                ED125888
                                                                                           ED156463
      ARIOMAL RESOURCES
                                                           ED106055
                                                                                EB118486, ED152643
                                                                                                      ED156473
                                                                                                                 ED158906
                                                (13)
                                                                     ED113143,
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|---|---|--|---|--|---|--|---|--|------------|
| *EDUCATIONAL STRATEGIES | ED165973 | ED174371' ED06629B | ED175590 | ED 176905 | ED 179443 | ED183456 | • . | e September 1 | |
| EDUCATIONAL STRATEGIES | (2) | ED093743 | . ED171475 | * . | | ` -4 | / ` | | |
| "EDUCATIONAL TRENDS | CD . | ED206517 | , | . ` | | | | , , , , | , |
| EDUCATIONAL TRENDS | (2) | ED:179484 | EP218204 | | | • | • | ` - | |
| EDUCATION AMENDMENTS 1974 | O | ED169256 | , , | | • | ٠. | | | • |
| MEDWIN GOULD OUTDOOR EDUCATION CENTERS NY | , CD+ ' 'S | ED184735 | 3 | • | | | | • | |
| THE RESTRICTS TO THE PROPERTY OF THE PROPERTY | (D ~ .) | ED064196. | ` , | | | | | • | |
| AELECTIVE COURSES | (1) | ED197924 |) | | • | • | | | |
| ELECTRICAL APPLIANCES | CD 🐬 🖓 | ED219271 | | • | • | • | | i at a | |
| ELECTRICAL APPLIANCES - | (I) · | ED219269 | | | | | | | |
| ELECTRIC BATTERIES | (1) | ED219281 | ć | • | 7 | | * *∙ | | _ |
| *ELECTRICITY | (2) | ED055806 | ED184859 | | • | | | | |
| ELECTRICITY | (7) | ED153859 | ED182180 | ED183392 | ED186281 | ED212492 | ED212493 | ED212494 | |
| TELECTRIC POWER GENERATION | (2) | ED099199 | E0099200 | • | | | • | , > | • |
| (.ELERENTARY AND SECONDARY EDUCATION ACT OF | $\mathbf{CD} = \mathbb{C}(\epsilon)$ | ED028086 | • | _ | | • | , | , | |
| ELEMENTARY AND SECONDARY EDUCATION ACT | (2) | ED033844 | ED096085 | | | n jes | | • | |
| TITLE III | • | | *. | | | | prike i | | _ |
| ELEMENTARY EDUCATION | (73) ED100644 ED100658 ED101941 ED134433 ED146048 ED157766- ED174432 ED186231 ED1204186 | ED045436 ED100649 ED100676 ED104639 ED134448 ED144561 ED165972 ED174442 ED186281 ED186281 | ED099216 ED100650 ED100686 ED100687 ED130661 ED149980 ED165973 ED176911 ED190053 | ED099217 ED100653 ED100687 ED130821 ED138462 ED153819 ED167355 ED189811 ED200453 | - ED180832. | ED100655 ED100694 ED133144 ED141142 ED157762 ED171456 | ED099220 ED100656 ED100695 ED133\$50 ED144786 ED174807 ED162180 ED162180 EB404184 | ED099221 ED102657 ED190712 ED134415 ED146044 ED157764 ED157764 ED182357 ED204185 | ` |
| ELEMENTARY EDUCATION | (109) | ED042607 | ED991268 | ED091269 | ED092743 | ED106778 | ED 102048 - | ED103233 | ₹\$ |
| | ED147582 ED157662 | ED175590 ED181417 | EU100245 E0110214 E010000 E0160979 E0167471 E0167409 E0175501 ED162404 E0193054 E0196724 E0206746 E0209061 E0216926 | ED103247 ED120045 ED135694 ED159783 ED157834 ED167421 ED175592 ED196955 ED193955 ED196788 ED206418 ED211378 ED216906 | ED103248 ED124460 ED124460 ED142429 ED152531 ED160212 ED175593 ED186246 ED198968 ED198964 ED198146 ED206419 ED214458 ED219254 | ED100249 ED104451 ED142430 ED153845 ED160284 ED167450 ED175594 ED160159 ED200407 ED206466 ED212460 ED219264 | EU176010 Eu108008 EU190062 E0200445 | ED111662 ED130527 ED147581 ED156578 ED167311 ED168977 ED177013 ED188868 ED194352 ED206450 EB206468 ED213581 | |
| FOR DIMENTARY GRADES | 126) E0071917 | ED034104 ED073923 | E0008207 E0075223 | ED056873 ED089367 | E0065345 E008036B | FD067218 EU081662 | ED968366 Etc-04607 | ED0705881 ED081608 | |
| ERIC 217 | | 3, | | | , | <u> </u> | | 218 | , <u>.</u> |

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|--------------|----------|---------------|------------|--------------|--|--|--|--|--|--|---|---|
| | | . ** | <u> </u> | ., • | ED086499 ED137063 | ED093673 ED142429 | ED103213 ED142433 | ED 106057 | ED114268 | ED119960 | ED1 1996 1 | ED121568 |
| ELEMENTARY | CRADES . | 1 . | | • | (48) ED059948 ED080344 ED098084 ED103239 ED103247 ED141116 | ED033812 ED059949 ED080348 ED103196 ED103240 ED103248 | ED046826 ED061118 ED020349 ED103219 ED103241 ED103249 | ED05 1011 EB062182 EB030361 ED103234 ED103250 | ED05 1012' ED064196 ED081595 ED103255 ED401243 ED103254 | ED055018 ED071868 ED083004 ED103236 ED103244 ED103252 | EB059926 EB073912 EB083117 EB103237 EB103245 EB103253 | EB059947 EB079068 EB092388 ED103238 ED103246 ED116904 |
| *ELEMENTARY | SCH00L | CURRICULUM | ٠. | | (3) | ED147581 | ED+98054 | ED 193055 | Ç | | • | |
| ELEPENTARY | SCHOOL | CURRICULUM | | | (6) * | ED087576 | ED130927 | ED147582 | ED206418 | ED213580 | ED213581 | |
| *ELEMENTARY | SCHOOL | MATHEMATICS | · | → ~, | CD _i | ED212411 | | | | | • | , |
| · ELEMERTÁRY | SCHOOL | MATHEMATICS | | Ţ. | (6) | ED176910 | ED 1769 1 1 | EĎ17 82 31 | ED206418 | ED206419 | ED2 19286 | |
| *ELETEINTARY | SCHOOL | SCIENCE | | > 1/1 - i | (55) E))051993 | ED032220 ED061058 ED103233 ED133150 ED157680 ED200407 ED210171 | ED033844 ED056500 ED111662 ED134415 ED167409 ED200445 ED211358 | ED033862 EB089993 ED111663 ED134433 ED167421 ED20045Q ED214792 | ED111664 'ED134455 ED168877 | ED035540 ED092390 ED133055 ED133461 ED193058 ED206466 ED216907 | ED:209138 ED:292391 ED:127169 ED:138462 ED:193059 ED:296467 ED:219234 | EB045375 EB093633 EB128163 EB144824 EB193062 EB206468 EB219331 |
| ELEMÉNTARY | SCHOOL | SCIENCE | F . | | (28) ED 174442 ED 180808 ED 211373 | ED041767 ED176910 ED184875 ED211378 | Eb961034 Eb176911 Eb166281 Eb212458 | ED962122 ED178231 ED198010 ED212460 | EB092368 ED179351 ED199065 ED219286 | ED097221 ED179352 ED204105 | ED141145 ED179353 ED297817 | ED153846 ED179335 ED207624 |
| ELEMENTARY | SCHOOL | STUDENTS. | | | (3) | ED093589 | ED093621 | ED 170896 | | V . ~ | . '^ ~ | |
| #ELEMENTARY | | e Study | | | CD, | ED167409 | | • | | • | | |
| *ELEMENTARY | SECOND | ARY EDUCATION | | - Activity | | ED180827 | E0141145 ED149986 ED156529 ED157760 | ED121569 ED134434 ED141178 ED149987 ED156530 ED157768 ED165988 ED175726 ED163368 ED204138 | ED134455 ED144794 ED149980 ED156531 ED157770 ED166032 ED176969 | ED149981 ED150026 ED156532 ED158930 ED167393 ED176957 •ED190344 | ED135649 ED149982 EB152498 ED157666 ED169075 ED167395 | ED125885 ED137140 ED149983 ED153820 ED157601 ED160418 ED176135 ED176984 ED194261 |
| ELEMENTARY | SECONDA | RY EDUCATION | | | | ED162905 * ED17:1466 ED17:1466 ED17:9484 ED186156 ED188919 ED19:040 ED19:040 ED29:2727 ED209:662 | ED167317 ED168192 ED174371 ED174371 ED1656 ED187486 ED190048 ED190029 ED196102 ED196092 ED202964 ED202964 ED210162 | ED130833 ED152499 ED152499 ED1529166 ED167976 ED173062 ED174481 ED187554 ED196399 ED196399 ED19628 ED19628 ED1964165 ED211361 | ED160281 ED165947 ED173115 ED177015 ED187315 ED187545 ED191697 ED193631 ED198010 ED200418 ED206471 ED211373 | ED127653 ED141963 ED145963 ED160263 ED167454 ED174364 ED183456 ED183456 ED183666 ED193961 ED193961 ED193961 ED193961 ED239424 ED234375 | ED156593 ED160286 ED170101 ED174365 ED179353 | ED107468 ED125056 ED142489 ED156594 ED160528 ED170152 ED174366 ED179365 ED184735 ED184736 ED194766 ED198318 ED194066 ED198318 ED201421 E0207824 R0211076 RD215920 |

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|--------------|---------------|-----------|-----|-------|--|---|--|---|---|---|---|--|
| | * | . : | | • | ED215921 ED219281 | ED215939 ED219327 | ED216907 | ED218154 | EDŽ 18160 | ED218162 | ED2 18204 | ED219244 |
| ELEMENTARY | SECONDARY | EDUCATION | ACT | TITLE | (1) | ED 100656 | | 1 | • | | | |
| *ELÈNENTARY | SECONDARY | EDUCATION | ACT | TITLE | (4) | ED068339 | EBØ92389 ' | • | ED092391 | • | • | |
| CLEM TARY | SECONDARY | EDUCATION | ACT | TITLE | (132) ED069468 ED086507 EB097211 ED099229 ED100652 ED100661 ED100668 ED1100668 ED110961 ED113224 ED133224 ED134455 ED149882 | ED100697 ED119962 ED130821 ED133225 ED137064 ED149983 | ED103226 ED137065 ED149983 | -ED130831 ED193227 ED138436 ED149935 | EDIGO657 EDIGC6C5 EDIOC6C3 FDIOC692 EDIOC794 EDI19965 KO132911 KO133223 EDI41175 EDI49936 | ED121566 ED133144 ED133229 ED149979 ED149987 | EB067245 EU-86499 EU-86699 EU-80669 EU-80667 EU-80667 EU-806685 EU-80694 EU-80694 EU-80694 EU-80694 EU-80694 EU-80694 EU-80694 EU-80694 EU-80694 EU-80694 EU-80694 | ED100668 ED100087 ED100605 ED119960 ED121568 ED103151 ED100231 ED100231 ED149981 |
| *EMERCENCY I | PROCRAMS | | • | • • • | ED149990 ED165973 -(2) | ED149991 ED165974 | ED149992 ED165975 ED191698 | ED165976 | ED149994 ED165977 | ED14999 | ED165970 ● | - ED100972 |
| EMPLOYER AT | TTITUDES | | | | (D) | ED 187875 | * , | ., | , | ¥ | | • |
| ≠ENDANCERED | SPECIES | | , | | (2) | - ' ' | ED196728 | | , . | 7 | | |
| *EHERCY | • | | | | ED127161 ED152531 ED153846 ED167355 | ED0899934 ED108891 ED130833 ED153859 ED167365 ED167461 ED167454 ED179794 ED183392 ED19174484 ED191743 ED191743 | EDI 1 1662 EDI 53228 EDI 53620 EDI 57617 EDI 67469 EDI 66725 | ED15781 8 . ED167367 | EB099199 ED111664 EB137075 EB153842 ED167819 ED167468 ED167468 ED173086 ED173086 ED173086 ED180794 ED180809 ED180809 ED180809 ED197998 EB200397 | ED099200 ED121569 ED137100 ED153843 ED157820 ED167369 ED167349 ED173158 ED17395 ED126231 ED190344 ED193055 ED200407 | ED101927 ED125865 ED149987 ED153844 ED160418 ED167350 Eb173159 ED179421 ED180227 ED186282 ED190346 Eb193063 ED199096 EL200408 | ED101959 ED127160 ED151297 ED153845 ED166060 ED16773 ED173163 ED173163 ED179792 ED182137 ED186215 ED190550 ED194652 ED199109 ED199109 ED1860409 |
| | | · | | 1 | E0260410 E0207818 E0212493 | ED200414 ED207824 ED212494 | ED206424 EB207158 EB214794 | ED200445 ED207859 ED214841 | EB209450 EB211378 EB215853 | ED261523 ED211379 ED218162 | Ebt.52729 Ebt.11388 Ebt.19244 | ED212492 ED219231 |
| ENERCY | • | 霧 | • | , ' | (51) ED154996 ED167372 ED179436 ED204182 ED213502 BD219275 | ED098096 ED154999 ED167402 ED183456 ED204183 ED213583 ED219276 | ED099188 ED157765 ED168:27 ED184817 ED296164 ED219269 ED219277 | ED 1062 13 ED 162885 ED 170 15 1 ED 18436 1 ED 20-\$185 EB 2 19270 ED 2 19278 | ED125085 ED165975 ED170162 ED184863 ED204166 ED219271 | ED146044 ED166909 ED174436 ED1152B1 ED205346 ED219272 | ED146048 ED166019 ED176937 ED17757 E1213509 EB219273 | ED149994 ED166632 KD179375 ED190848 ED213531 ED219274 |
| *ENERCY CONS | SERVATION 221 | | | • • | (168) ED146044 ED157817 ED166016 ED167355 | ED 10889 1 ED 146048 ED 157826 ED 1660 1 1 ED 16737 1 | ED125285 ED149994 ED160918 ED160912 ED167372 | ED166013 | RD127161 RD153826 RD162836 RD166014 RD167449 | ED100821 ED104996 ED164203 ED164015 ED167450 | ED130822 EB154999 ED165983 Eb166016 ED167451 | ED130831 ED157681 ED166009 ED166933 ED167452 |

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| | ED167454 ED179374 ED182132 ED184869 ED190344 ED194353 ED211378 ED215863 ED219274 | ED168725 ED179395 ED182133 ED186231 ED190346 ED194440 ED211379 ED218162 ED219275 | ED168877 EB179795 ED182134 ED166281 ED190348 ED200424 ED211368 ED219268 ED219268 | ED173072 ED180791 ED182135 ED186315 ED190350 ED204182 ED212492 ED219269 ED219277 | ED173086 ED180826 ED182136 ED186316 ED190353 ED204183 ED204183 ED212493 ED219270 ED219270 | ED174479 ED160827 ED162137 ED187554 ED191743 ED204184 ED212494 ED219271 | ED175718 ED181417 E1184817 ED197555 ED191745 EB294185 EL214794 ED219272 | ED176957 ED182131 ED184851 ED187557 ED193063 ED204126 ED214241 ED219275 |
|-----------------------|--|--|--|--|--|--|--|--|
| ENERGY CONSERVATION | (45) EB147581 EB167366 EB188860 EB199116 EB207858 | ED098100 ED147582 ED167413 ED193061 ED200407 ED207859 | ED101937 ED1505:19 ED176960 ED193662 ED200498 ED215659 | ED103213 ED156463 ED181666 ED194362 ED200456 ED213581 | ED114263 ED157816 ED183392 EO199096 F1/201523 E6/213562 | ED 12 1569 ED 16 44 14 ED 16 4859 ED 169 169 ED 202726 ED 213563 | ED144826 ED166060 ED174860 ED179114 ED202729 | ED147165 ED167065 ED186282 ED199115 ED267624 |
| ENERGY CONSUMPTION | (2) | ED199109 | ED201523 | - | ** | | • | |
| *ENERGY CONVERSION . | (1) | ED219275 | | • | | | 2, | |
| *ENERGY EDUCATION*** | (28) E0167368 E0167402* E0174404 E0180826 E0186231 E0190346 E0207817 E0212492 E0214841 E0219271 | ED154996 ED167369 ED167469 ED175718 ED186281 ED196348 ED207818 ED212493 ED215863 ED219272 | ED162836 ED167370 ED167310 ED179074 E0180392 ED166282 ED190850 ED207624 ED212493 ED216907 ED219273 | ED166010 ED167371 ED167423 ED179375 ED184859 ED137564 ED190353 ED207858 ED213580 ED218162 ED219274 | ED166016 ED167372 ED173072 ED179395 ED184060 ED187350 ED191743 ED207869 ED213081 ED219244 ED219275 | EQ184861 | ED167366 ED167374 ED173158 ED180791 ED184863 ED193860 ED193866 ED193869 ED211379 ED219383 ED219269 ED219277 | ED167367 ED167491 ED174479 ED180794 ED184869 ED190344 ED193682 ED211388 ED214794 ED219270 EB219270 |
| ENERGY EDUCATION | (6) | ED164283 | ED173159 - | ED173163 | ÈD175722 | ED175726. | EB176957 | •• |
| *ENERCY STORAGE | *CD | ED2 19281 | | | | • | | • |
| #ERGLAND | CD . | ED156594 | | | | • • | • | • |
| EHCLÁND | \mathbf{c} | ED070635 | • | | | . • | . • | • |
| ENGLISH . | (1) | EDØ 17377 | - | • | | 1 | | |
| MENGLISH CURRICULUM | (3) ' , | ED169563 | ED169564. | ED216369 | | | , . | • |
| english curriculum | (4) | ED158301 | ED158002 | ED158303 | ED179980 | | | |
| ENGLISH EDUCATION | (3) | `ED986 597 ' | ED162897 | ED175722 | - 4 | | ٠. | , |
| *ENGLISH INSTRUCTION | | ¢ ED1583⊕1 | ED158302 | ED158303 | `ED169563 | ED169564 | ED 179980 | ED200418 |
| ENGLISH INSTRUCTION | (B) | ED216369 | . –1 | | ` ~ , | | | } |
| ENRICHMENT ACTIVITIES | (6) ^l * | ED024484 | ED06J989 | ED094912 | ED123055 | ED200381 | ED209062 | • |
| SENRICHIENT PROGRAMS | (1), 44 | ED150783 | | • | | • | • , | |
| ERTOHOLOGY | $\mathcal{L} = \mathbf{C} \mathbf{D} \mathcal{L}$ | ED179414 | | | · | , · · · | | |
| ERIC 223 | (63) ED103240 ED193208 ED139218 | ED044295 ED103241 ED133210 ED133224 | EB045050 ED106057 ED183211 ED136225 | ED055806 ED121566 ED133212 ED133226 | EB067304 ED125866 ED130213 ED133227 | ED068339 ED133144 E0133214 ED133228 | ED071868 ED133160 ED133216 ED133229 | ED082982 ED133207 ED133216 ED153230 |

ENVIRONMENT

ENVIRONMENTAL AWARENESS

ENVIRONMENTAL CRITERIA

*ENVIRONMENTAL EDUCATION

| | | | | | , | | |
|------------|------------|-------------|----------|------------|------------|-----------|-----------|
| ED133231 | ED134415 | ED134433 | ED134434 | ED134449 | ED135648 | ED135649 | ED137064 |
| ED137065 | ED137075 | ED 137 140 | ED141158 | ED149983 | ED169256 | ED170138 | ED173115 |
| KD173117 | ED174431 | ED174432 | ED174484 | ED175723 | ED175724 | ED180808 | ED180809 |
| ED182 I 18 | ED 183368 | ED183374 | ED184863 | ED184354 | ED184870 | ED158919 | ED193053 |
| | | | | | | | |
| (98) | ED045375 | EB050945 | EB055864 | ED0634 I I | ED064196 | ED980348 | E0085249 |
| En093619 | ED099229 | EB099230 | ED099231 | EB399232 | ED099233 | ED169639 | EB100676. |
| ED100712 | ED103196 | ED100201 . | ED106054 | ED107468 | ED168874 | ED108875 | ED113143 |
| ED113151 | ED f 16904 | ED121565 | ED121567 | ED121563 | ED121654 | ED121655 | ED121656 |
| ED125925 | ED128163 | ED132011 | ED133151 | ED130209 | - ED103219 | ED:03220 | ED141081 |
| ED141162 | ED 149984 | ED 160042 | ED153845 | ED157884 | -ED157835 | EL157826 | ED157807 |
| ED162905 | EU 164341 | ED176435 | ED174436 | ED174992 | ED175726 | En)175728 | ED175729 |
| ED175730 | ED176960 | ED176984 | ED177014 | E0178305 | ED178350 | ED179375 | ED179411 |
| ED179412 | ED 179414 | ED179415 | ED179416 | E0179417 | ED169311 | ED#00812 | ED189813 |
| ED180814 | ED 186832 | ED 189633 | ED162131 | ED182132 | E0182433 | ED132135 | ED1C2136 |
| ED183357 | ED183363 | 61 & C81 (J | ED133456 | ED184617 | ED104059 | EB104860 | ED184864 |
| ED184862 | ED 184865 | ED104866 | ED186246 | ED187554 | ED187557 | ED108360 | ED 128268 |
| ED190398 | ED190399 | ED218160 | , | | , | • | |
| • | | | | | | | - |

| | 1,111,0130 | FDICOADA | E.D1709(F8 | ED177014 | ED176355 | LD178350 | ED17.331.2 | ED179511 |
|-----|---------------------|--------------|--------------------------|-------------|------------|---------------|---------------|-----------------|
| | ED179412 | ED 179414 | ED179415 | ED179416 | E0179417 | ED189311 | ED400812 | ED189813 |
| | ED180814 | ED 180832 | ED 180633 | ED162131 | ED182132 | ED182433 | ED132135 | ED102136 |
| | ED183357 | ED183363 | 61 &C81 (J | ED133456 | ED184817 | ED104059 | EB104860 | ED104961 |
| | ED184862 | ED 184865 | ED104966 | ED186246 | ED187554 | ED187557 | ED108866 | ED128268 |
| | | | | ED100240 | 170101334 | ED104 205 | EDICORON | EDICODOO |
| | ED190398 | ED190399 | ED218160 | | | * | • | • |
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| | (1) | ED 106095 | ' | • | • | | t | |
| | • | • | | | | | | |
| | (2) | ED086482 | ED 125938 | • | | | | |
| | / | 22000 | 120,00 | | | • | | |
| | (667) | ED033784 | E1933788 | ED933812 | EB935473 | ED038207 | ED939 138 | EB941767 |
| | ED045375 | ED0351114 | ED045436 | ED945437 | E0035415 | | EG549917 | EB050940 |
| | | | | | | E0046826 | | |
| | EB051011 | ED05,1012 | Enoc3946 | ED955015 | ED955018 | ED055806 | EB655940. | EB058949 |
| | ED968127 | ED059901 | ED059926 | ED059947 | ED059940 | ED059949 | EB559950 | ED059958 |
| | . ED96 1 034 | ED061118 | ED961126 | EU062176 | ED062180 | _E0062482_ | _EL962234 . | .EB063111 · |
| | ·E11063 162 | ED063989 | ED964196 | ED%6298 * | E0066308 | EU067241 | ED467242 | EDD67243 |
| | ED967244 | ED067245 | EB067246 | ED068337 | EB068348 | EB068366 | EB570635 | EB970680 |
| | EB970681 | ED071868 | EB971917 | | ED973913 | EB073923 | EB674038 | ED075223 |
| | ED075315 | ED077723 | ED979048 | ED979068 | EB079100 | ED980291 | ED080348 | ED080349 |
| | ED020361 | | | | | | | EC033004 |
| | | ED089367 | Boecscal . | -ED931595 ` | EB281601 | EB98 1602 | EL532978 | |
| | En083 1 17 | ED085247 | Ences248 | EU085249 | ED986973 | f:B086482 | Et&56483 | EDOCEASA |
| | ED086485 | ED086486 | EDØ&5487 | EB086499 | En986507 | ED906622 | E0006554 \ | EB006556 |
| | ED986557 | ED087688 | ED989993 | EU99 1 172 | Elio9 1269 | EB092358 | EE:092374 | EB092376 |
| | E0092377 | ED092378 | ED992379 | ED092388 | EB092389 | ED992390 | EE092391 | EB092395 |
| | ED092437 | ED093589 | EB393599 | EB\$93619 | ED993621 | ED993633 | EUG93634 | ED392648 |
| | ED993673 | EB093682 | EB094912 | EU094948 | E50960035 | EB097211 | EUU97219 | EB097221 |
| | EB998972 | ED098984 | E8992696 | E6636693 | EB098100 | KB059186 | Eb299 187 | EB09913B |
| | | | ED ひつらひつひ ED ACO 10.1 | | | ED027100 | EDUST 100 | |
| | ED099189 | ED099190 | | EU999192 | EB099199 | ED099200 | EB659210 | ED099213 |
| | ED099214 | ED099215 | E0099216 | ED099217 | ED999218. | ED099219 | Eug99220 | E6999221 |
| | EU099229 | ED099230 | EB999234 | BU099232 | EB099233 | E0099234 | ELO99205 | E0099240 |
| | ED100639 | ED100649 | ed i cocso | ED100652 | ED100653 | ED100654/ | ED 160656 | ED168656 |
| - | ED100657 | ED100658 | ED100659 | ED100660 | ED10066 I | ED100662 | ED100993 | ED160664 |
| | ED100665 | ED160666 | ED100567 | ED100668 | ED106669 | ED100670 | ED100671 | ED100672 |
| , | ED109673 | ED100674 | ED 109676 | ED109586 | ED105587 | EDIOCOES | ED140689 | EDICO690 |
| • | ED100691 | ED100692 | ED100263 | ED100694 | ED106695 | ED 100696 | ED 100697 | ED100698 |
| | | | | | | ED101942 | Et/101943 | |
| | ED100712 | ED100777 | ED100773 | ED101937 | ED101841 | | | ED101944 |
| | ED101945 | ED10,1959 | ED102001 | ED102048 · | | ED100201 | Ep (03213 | ED103219 |
| | ED103234 | ED103235 | E0100236 | ED103237 | ED103233 | ED103239 | ED403240 | ED 103241 |
| | ED103242 | ED103243 | E0103244 | EB103245 | ED103336 | ED100247 | ED103248 | EB163249 |
| | ED103250 | ED103251 | ED 103252 | MD 103253 | E0103294 | ED164639. | ED164651 | ED104794 |
| | ED106034. | ED106055 | ED 106670 | ED106084 | EPTOCOUS | E0106095 | ED106213 | ED107466 |
| | E0107468 | ED 10747.1 | E0107439 | ED107549 | ED108874 | ED1082300 | E)#1 (3 143 | EDI 13148 . |
| | ED113151 | ED113214 | E))1 132 16 | ED113216 | ED113256 | ED114254 | ED114269 | ED116904 |
| | ED116910 | | ED1 16946 | | | | ED119960 | |
| . 4 | | ED116914 | | ED116947 | BD148360 | ' ED118526 | | ED119961 |
| - | ED119962 | ED119963 | ED119964 | ED119265 | ED120044 | ED 120945 | ED 120049 | ED120053 |
| | E0121565 | RD121566 | E0121567 | ED121568 | ED124569 | ED 12 1653 | ED 121654 . | ED (2 1655 |
| | ED121656 | FD123034 | Eb120005 | ED 123095 | ED123136 | KD124A50 | ED 125852 | ED125855 |
| | MD125862 | - ED125868 | E9125871 | ED126983 | ED12543:5 | . ED (2508) | ED125931 | ED125937 |
| , | ED125938 | ED128001 | ED126165 | ED128289 | E0129833 | ED130620 | ED 130821 | ED 130822 |
| | ED 139031 | E0136833 | ED130927 | ED132011 | E0133140 | , ED 193 15-1 | ED 133224 | ED 1313225. |
| | ED.133226 | ED133227 | ED133229 | ED1:14415 | E0134433 | ED139434 | ED 104448 | ED134449 |
| | the formation | TR : (1) Hay | rin Linners | 1101/13219 | PREDITION | mariskana" | ENT TAILBURGE | Physical Street |

ED 134535 ED 137064 ED134537 ED138436 ED139671 ED142481 ED137140 ED138527 ED138538 ED141081 ED141094 ED141081 ED144332 ED14710B ED149979 ED149908 ED156464 ED156464 ED157682 ED157768 ED157768 ED157768 ED157768 ED157768 EB141116 EB141178 EB144787 EB1447889 EB144794 EB147589 EB149981 EB149981 EB149981 EB149990 EB149991 EB152531 EB152541 EB156478 EB156478 EB156478 EB156478 EB156478 EB156478 EB156777 EB157768 EB157758 EB157758 EB157758 EB157758 EB157758 EB16886 EB156729 EB168972 EB166099 EB166009 EB167451 EB167452 EB167451 EB170139 EB167451 EB173062 EB174367 EB173062 EB174967 EB174967 EB178232 EB178232 EB178232 EB178232 EB188813 EB188813 EB188813 EB188813 EB188813 EB188813 EB188814 EB182118 EB182118 EB182131 EB18335 EB184862 EB184862 EB184863 EB193669 EB193059 EB193059 EB193059 EB193059 EB193059 EB193050 EB193050 EB193050 EB193050 EB193050 EB193156 EB2207824 EB213581 EB213582 EB213582 EB218584 ED142429 ED142633 ED144825 ED1449843 ED149986 ED149986 ED149993 ED149994 ED154986 ED154986 ED154986 ED156481 ED156531 ED156531 ED157773 ED157773 ED157773 ED157773 ED157773 ED166015 ED166015 ED166015 ED166015 ED167374 ED167374 ED167374 ED170152 ED170152 ED170152 ED170152 ED170153 ED173115 ED173117 ED174435 ED174435 ED174435 ED174435 ED174435 ED174435 ED174436 ED187666 ED180794 ED19063 ED190399 ED190399 ED190399 ED190399 ED19031 ED193047 ED19063 ED19063 ED1906418 ED201523 ED206418 ED201523 ED206418 ED201623 ED214792 ED214792 ED214792 ED144786 ED144786 ED1447822 ED149409 # ED149409 # ED150079 ED150479 ED150479 ED150479 ED157867 ED157867 ED167860 ED167450 ED176135 ED176135 ED176231 ED176231 ED179421 ED180012 ED141953 ED144824 ED144824 ED144984 ED149984 ED156460 ED156460 ED156460 ED156460 ED156460 ED156460 ED156460 ED156460 ED156460 ED167771 ED168905 ED168905 ED170486 ED1704864 ED18904864 ED1904864 ED1904864 ED182483 ED146084 ED149967 ED149995 ED154999 ED156480 ED157664 ED157305 ED164344 ED165977 ED164344 ED165977 ED164344 ED165977 ED164346 ED1659665 ED164666 ED164414 ED165983 ED167367 ED167449 Eb 170101 ED 171475 ED 174365 Eb 175590 ED121466 ED174364 ED174364 ED174479 ED175723 ED177014 ED179416 ED1823125 ED182316 ED182416 ED18360 ED194869 ED194849 ED194849 ED194849 ED194849 ED194849 ED202424 ED202424 ED202424 ED202424 ED202424 ED202424 ED175590 ED175729 ED1770417 ED179417 ED183811 ED182113 ED182126 ED184817 ED100512 ED102114 ED102144 ED104260 ED106246 ED108919 ED190588 ED184017 ED184375 ED188068 ED191747 ED193055 ED194352 ED194352 ED199109 EEE29445 EEE292729 EEE297811 ED210178 ED198058 ED1950791 ED199414 ED200450 ED204450 ED206465 ED206465 ED206465 ED216122 ED216122 ED216526 ED216526 ED190002 ED196704 ED192012 ED200007 ED201009 ED200095 ED200001 ED211000 ED211000 ED211000 ED211000 E0212461 Eb215863 ED219286 ED938224 ED942697 ED944295 EB946781 ED961059 ED961060 ED961061 EE52122 ED9636366 ED967218 ED968360 EB-69468 ED981608 ED986552 ED96553 ES506555 ED19608B ED108276 ED108291 ED110896 ED120046 ED125865 ED125928 ED115920 ED173210 ED137055 ED146044 ED146048 ED157063 ED137055 ED146044 ED146048 ED157689 ED160225 ED166011 ED166012 ED167355 ED167366 ED167371 ED167372 ED173057 ED173072 ED173168 ED17372 ED174484 ED175391 ED175592 ED176910 ED193660 ED199361 ED19374 ED167629 ED193061 ED186261 ED19374 ED167629 ED193061 ED194261 ED194325 ED194363 ED198010 ED194261 ED194325 ED194353 ED198013 ED194361 ED194325 ED1948353 ED198014 ED194361 ED194365 ED194365 ED194365 ED194361 ED194365 (186) ED038222 ED056873 ED056874 ED05309 ED066345 ED070615 ED080344 ED111663 ED111664 ED103150 ED133207 ED133228 ED133230 ED147224 ED147581 ED153844 ED166032 ED166016 ED166032 ED174371 ED179138 ED174371 ED17432 ED174371 ED17432 ED179351 ED179352 ED190346 ED190350 ED190346 ED190350 ED195309 ED197996 ED190410 ED200418 ED204184 ED204185 EB036223 EB061058 EB061607 EB103233 EB1160208 ED1102231 EB1107562 EB1177662 EB1179056 EB1179056 EB1190366 EB1190366 EB1190366 EB1190366 EB1190366 EB1190366 ED055833 ED053151 ED07058D ED059299 ED111662 ED111662 ED133144 ED136213 ED147223 ED166613 ED167402 ED173163 ED176957 ED184735 ED196400 ED195396 ED260409 ED260404 ED260404

ED134538

ED134536

ED135649

ED135648

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ED137056

ENVIRONMENTAL EDUCATION

| | ED211374 ED212494 ED219269 ED219277 | ED211375 ED215923 ED219270 ED219281 | ED211376 ED216906 ED219271 ED219287 | ED211377. ED216907 ED219272 | ED211388 ED216927 ED219273 | ED211389 ED219234 ED219274 | ED212492 ED219244 ED219275 | ED212498 ED219268 ED219276 |
|--|--|--|--|---|--|--|--|--|
| *ENVIRONMENTAL EDUCATION PROJECT | (8) ED121656 | ED113214 | ED113215 | ED113216 | ED1 13256 | ED121653 | ED121654 | `ED121655 |
| ENVIRONMENTAL ENERGY EDUCATION PROJECT | .CD. | ED147188 | | · | | | | |
| ENVIRONMENTAL IMPACT STUDIES | (1) | ED174364 | • | | | • ' | | /. ~ |
| *ENVIRONMENTAL INFLUENCES | (44) ED170138 | ED071264 ED174435 | ED971265 ED175723 | ED071266 ED184864 | ED071267 ED184865 | ED087188 ED193410 | ED08 7 1 89 ED21 9287 | ED103240 |
| ENVIRONMENTAL INFLUENCES | (27) ED120053 ED167449 ED179375 | ED059947 ED128136 ED167450 ED179436 | ED967233 ~ED125852 ED167451 ED180774 | ED987688 ED130927 ED167452 ED184863 | EB099 199 ED142488 ED167454 | ED999200 ED142489 ED174484 | ED099210 ED144684 ED178305 | ED107549 ED161754 ED178350 |
| ENVIRONMENTAL MANAGEMENT | (4) | ED213580 | ED213581 | ED213582 | ED2 13583 | / | . | • |
| *ENVIRONMENTAL PROBLEMS | (D) | ED193048 | | - | ı | • / | 1. | · · |
| ENVIRONMENTAL PROBLEMS | (1) | ED193047 | | | • | | , | · |
| ENVIRONMENTAL PROTECTION ACENCY | (D) | ED148581 | | | | · • | • | ٠. |
| ENVIRONMENTAL QUALITY | (1) | ED193047 | • | , | | , | | |
| ENVIRONMENTAL RESEARCH | (9) ED093648 | ED063141 ED100777 | ED086482^ | ED086483 | ED086484 | ED086485 | ED086486 | ED086487 |
| ENVIRONMENTAL STUDIES | . ĈD | ED141116 | - | | | , ; | | |
| EP1DEM10LOCY | • CD . | ED077723 | | + | | | - | , , |
| EQUAL EDUCATION | . (1) | ED202940 | , | | | | | |
| EQUAL OPPORTUNITIES (JOBS) | (D) | ED202940 | • | | | | 1 | ` <u>1</u> |
| SEQUAL PROTECTION | $ec{f O}$. | ED202940 | • | | | | · | ' |
| *EQUIPMENT | (2) | ED080361 | ED213164 | +, 1 | a 4~ | | | , , |
| 'EQUIPREM' | (9) ED175729 | ED038223 ED186156 | ED038224 | ED093648 | ÉD 107471 | ED175590 | ED175592 | ED175728 |
| EQUIPMENT MAINTENANCE | (D) | ED170101 | | | | | | ·/ \ |
| EQUIPMENT STANDARDS | , (D) | ED170101 | | - | • | • | ٠, | / |
| ERIC SMEAC | (2) | ED091172 | ED 10203 1 | | | | • | |
| BROSTON (* | $\sim \omega - \zeta$ | ED174364 | • | | | • | • . | * |
| ESEA TITLE HI 229 | (137) ED955833 ED966300 ED966300 ED981601 ED906553 ED993599 ED99214 | ED056873 ED067233 ED068339 ED081602 ED086554 | EB034676 ED958949 ED967241 ED967241 ED967247 ED967241 ED97241 ED99229 | ED035540 ED06 1059 ED067242 ED070660 ED005248 ED086556 ED097219 ED099230 | ED043501 EB061060 ED067243 EB070641 EB086557 EB097221 EB097221 | ED045350 ED061061 ED067244 ED079048 ED092389 ED092389 ED094372 ED099232 | ED945375 ED963151 ED967245 ED079068 ED076560 ED072390 ED699210 ED699233 | EB046718 ED065351 ED067246 EB079100 EB086507 EB092391 EB099213 EB099240 |
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|--------|---|--|--|--|--|--|--|---|----|
| 7 | ED100649 ED100659 ED100667 ED100686 ED1100646 ED113215 ED113964 ED130831 ED130831 ED133227 ED138436 | ED100650 ED100660 ED100668 ED100687 ED100695 ED113216 ED110965 ED112011 ED163228 ED141175 | ED100653 ED100661 ED100669 ED100600 ED100696 ED113256 ED121566 ED133144 ED133229 | ED100654 ED100662 ED100670 ED100689 ED100697 ED116710 ED121567 ED133150 ED133230 | ED100655 ED100663 ED100671 ED100690 ED100698 ED112960 ED121560 ED133151 ED133231 | ED100656 ED100664 ED100672 ED100091 ED101937 ED119961 ED125971 ED123224 ED124455 | ED100657 ED100665 ED100673 ED100692, ED100692, ED100821 ED100821 ED100220 ED107064 | ED109658 (ED100666 ED100693 ED113216 ED113226 (ED130822 (ED137665 | |
| | (I) | ED167311 | | • | • | * | • , | | ; |
| | (2) | ED142429 | ED142433 | • | | • | • | • | |
| | (2) | ED198010 | ED206469. | | • | ,. , | | • | |
| | (i) | ED176905 | • | | | • | • | • | |
| - | (2) | ED149983. | ED149990 | | | ~ . | | | |
| , | (4) | ED121656 | ED125883 | ED176905 | ED196728 | | , | | ٠. |
| Ι. | (2) | ED214838 | ED215921 | | _ | , ' | | | |
| | O | ED155069 | • | · · · · · · · · · · · · · · · · · · · | , | · • | | , <i>,</i> | |
| | (3) | ED064187 | ED991268 | ED120048 | | | | • | |
| , | (D) | ED198013 | | | , | . 7. | | | |
| | (D | ED147223 | | | • | | - | • | |
| | (2) | ED067202 | ⊋ED125666 | | • | , | , | | |
| | (4) | ED038207 | ED150079 | ED167355 | ED183456 | ς. | _ | •• | |
| | (6) | ED165972 | ED165978 | ED165974 | ED165975 | ED165976 | ED165977 | | |
| | $\mathbf{co}^{(i)}$ | ED190350 | . 1 | <i>,</i> . | ۱ و | | | . 5 | _ |
| | (5) | ED033784 | ED087688 | ED102048 | ED 15 1 123 | ED194440 | , | | |
| | CD · | ED038222 | | | /- | • | • | • | |
| | $\mathbf{O}_{\mathbf{p}}^{-1}$ | ED962180 | • | | 1 | | | | ۴ |
| ٠, | (8) ED183363 | ED071264 | ED971265 | E D 071266 | ED071267 | ED087 188 | ED087-189_ | ED180814 | • |
| | (1) | ED138527 | 4 | | ; • | : | | • . | |
| | CD T | ED134434 | - | | | | | ٠. | |
| , - | C1). | ED191747 | | | : | | | | • |
| | $\omega \to \omega$ | ED191749 | ٠, | | | • | | | |
| | (1) | ED147216 | • | | • | • , | | | ٠. |
| | (2) | ED173062 | ED174371 | | | • | • | | |
| | | n- 450000 | .DD1E4866` | | | 3 5.4545 | 22.404 | PP454454 | |

EXPERIENTIAL EDUCATION ~

≭EXCEPTIONAL CHILD EDUCATION

MEXCEPTIONAL CHILDREN-EXCEPTIONAL CHILDREN

*ESKIMOS *ESTUARIES ESTUARIES

⇒ETHICS ETHICS

*ETHICAL INSTRUCTION

ETHNIC GROUPS

ETHNIC STUDIES

EUROPE (EAST)
SEVALUATION
EVALUATION

EVALUATION CRITERIA
EVALUATION METHODS
EVALUATION TECHNIQUES

ETHNICITY

*ETHNOLOGY

EVOLUTION

#EXHIBITS ...
EXPENDITURES

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| ENPERIENTIAL LEARNING (39) | | | ** | 1 4 | P | | • | | - | | |
|--|------------------------------|------------|------------------------|-----------------------|------------------------|----------------------|---|---|----------------------|----------|----|
| ### ### ### ### ### ### ### ### ### ## | | | ED176910 ED198980 | ED178292 ED209061 | ED183297 ED216828 | ED184734 | ED184735 | ED186156 | ED19426 I | ED196577 | |
| EXPERIMENTS (2) ED070615 ED174U67 *EXPORTS (1) ED202717 *FACILITIES (2) ED118366 *FACILITIES (1) ED184734 *FACILITY OUIDELINES (1) ED184734 *FACILITY INVERTORY (1) ED06723 *FACILITY INVERTORY (1) ED06723 *FACILITY INVERTORY (1) ED175596 *FAMILY LIFE (1) ED075516 *FAMILY LIFE (1) ED075316 *FAMILY PLANTING (1) ED193829 *FAMILY PLANTING (1) ED193829 *FAMILY PLANTING (1) ED193829 *FAMILY PLANTING (1) ED193416 *FAMILY ROLE (1) ED193416 *FEDERAL RECULATION (1) ED19342 *FEDERAL RECULATION (1) ED19342 *FIELD EXPERIENCE PROGRAMS (1) ED187945 *FIELD EXPERIENCE PROGRAMS (1) ED17944 *FIELD EXPERIENCE PROGRAMS (1) ED069460 ED167317 ED18329 ED168156 *FIELD EXPERIENCE PROGRAMS (3) ED61011 ED18686 ED168328 ED171476 *FIELD INSTRUCTION (1) ED67946 ED167317 ED186329 ED1671476 ED174366 ED174366 ED174366 *FIELD STUDIES (4) ED060460 ED167317 ED17316 ED17317 ED186156 *FIELD STUDIES (4) ED060460 ED167317 ED17316 ED17317 ED174366 ED174366 *FIELD STUDIES (4) ED060460 ED067256 ED067256 ED0934019 ED094615 ED09448 ED167468 | EXPERIENTIAL LEARNING | . ′, | ED165973 * ED171475 | ED165974. ED173062 | ED 165976 ED 175520 | ED165977 ED175591 | ED 166 009 ED 175 592 | ED167311 ED1769 05 * | ED186909 ED186909 | ED170101 | |
| ### ################################## | *EXPERIMENTS | . • | (2) | ED061058 | EB062122 | *, ' | | • | e (* | ₽ | |
| ### ### ### ### ### ### ### ### ### ## | Experiments - | • | (2) | ED070615 | ED174967 | | , | | | • . | |
| FACILITIES (1) ED184784 FFACILITY CUIDELINES (1) ED18360 FFACILITY INVENTORY (1) ED179101 FACULTY INVENTORY (1) ED179101 FACULTY INVENTORY (1) ED179101 FACULTY INVENTORY (1) ED179100 FACULTY INVENTORY (1) ED179100 FACULTY INVENTORY (1) ED179100 FAILLY LIFE (1) ED075316 ***FAMILY LIFE (1) ED075316 ***FAMILY LIFE EDUCATION (1) ED193029 ***FAMILY PLANNING (1) ED193029 ***FAMILY PLANNING (1) ED193029 **FAMILY PLANNING (1) ED193029 **FAMILY PLANNING (1) ED193029 **FAMILY PLANNING (1) ED193029 **FEDERAL LECISLATION (1) ED193412 FEUERAL LECISLATION (1) ED19342 **FEUERAL LECISLATION (1) ED179795 (2) ED187875 (3) ED179795 (4) ED179795 (5) ED179795 (6) ED179795 (7) ED179796 (8) ED179796 (9) ED179797 (1) ED183277 ED186156 **FIELD EXPERIENCE PROGRAMS (3) ED659949 **FIELD INSTRUCTION (3) ED659949 **FIELD INSTRUCTION (4) ED659949 **FIELD STUDIES (4) ED669961 **FIELD STUDIES (4) ED669061 **FIELD STUDIES (5) ED667216 **ED67216 **ED | *EXPORTS , | | (I) | ED202717 | | • | , | • | | | |
| #FACILITY OUIDELINES #FACILITY INVENTORY #FACILIT | * #FACILITIES | • | (2) | ED1 18360 | ED133140 | • | | | | | |
| #FACILITY INVENTORY FACILITY INVENTORY FACILITY INVENTORY FACULTY DEVELOPMENT FACULTY DEVELOPMENT FACULTY MANDROOKS (1) ED175590 FACULTY MANDROOKS (1) ED175590 FAITHLY PLANKING (1) ED193629 FAITHLY PLANKING (1) ED19329 FAITHLY PLANKING (1) ED193410 FFAITHLY PLANKING (1) ED193410 FFEDERAL COVERNHENT (1) ED193410 FFEDERAL LEGISLATION (1) ED183842 FFEDERAL REGULATION (1) ED1879785 FFICALES (2) ED187878 ED214842 FFICALES FICTION (1) ED194794 FFICAL EXPERIENCE PROCRAMS FIELD EXPERIENCE PROCRAMS FIELD EXPERIENCE PROCRAMS FIELD INSTRUCTION (3) ED651011 ED168366 FFIELD INSTRUCTION (4) ED659369 ED167317 ED183297 ED1863285 ED171475 FIELD INSTRUCTION (3) ED650949 ED167317 ED178366 ED178376 FFIELD STUDIES (4) ED669468 ED600044 ED163251 ED281366 FFIELD STUDIES (5) ED661652 ED079488 ED60044 ED163251 ED281366 FFIELD STUDIES (4) ED661652 ED079488 ED60044 ED163251 ED281366 | FACTLITIES . | • • • • | ക് | ED184734 | • | | | - | Sau_ | · | |
| FACILITY INVENTORY FACULTY DEVELOPMENT (1) ED16578 FACULTY HANDBOOKS (1) ED175590 FAILLY LIFE (1) ED67315 #FAILLY LIFE EDUCATION (1) ED193829 **FAILLY PLANKING (1) ED162643 ED171597 ED179417 ED266517 **FAILLY PLANKING (4) ED162643 ED171597 ED179417 ED266517 **FAILLY ROLE (1) ED193419 **FEDERAL COVERNIENT (1) ED163842 **FEDERAL LECISLATION (1) ED183842 **FEDERAL LECISLATION (1) ED179795 **FELLES (2) ED187875 ED214842 **FICTION **FILLD EXPERIENCE PROGRAMS (4) ED68956 ED167317 ED183297 ED186156 **FILLD EXPERIENCE PROGRAMS (3) ED651011 ED16826 ED168320 **FILLI INSTRUCTION (3) ED66909 ED162374 ED18635 ED171475 **FILLI INSTRUCTION (13) ED66909 ED162374 ED18635 ED171475 **FILLI STUDIES (4) ED66946 ED16365 ED67218 ED163251 ED171475 **FILLD STUDIES (4) ED66946 ED66065 ED66728 ED16321 ED171475 **FILLD STUDIES (5) ED66946 ED66065 ED66728 ED67216 ED079588 ED09319 ED696619 ED694948 ED167486 | *FACILITY CUIDELINES | | in " | ÉD I 18360 | | | | • | | | |
| FACILITY INVERTORY FACULTY DEVELOPMENT (1) ED175590 FACULTY HANDBOOKS (1) ED175590 FAILLY LIFE (1) ED075315 **TAMIDY LIFE EDUCATION** (1) ED193029 **VAMILY PLANNING (1) ED193029 **PAMILY PLANNING (4) ED162643 ED171597 ED179417 ED266517 FAMILY ROLE (1) ED193410 **FEDERAL LEGISLATION* (1) ED19342 **FEDERAL LEGISLATION* (1) ED179795 FEMALES (2) ED187875 ED214842 **FICLS (1) ED179795 **FICLS (1) ED164794 **FICLD EXPERIENCE PROGRAMS* (4) ED069960 ED167317 ED183297 ED186156 **FIFLLI INSTRUCTION* (3) ED069061 ED1660034 ED166205 ED171470 **FIFLLI INSTRUCTION* (1) ED168060 ED173000 ED180370 ED181317 ED17316 ED17316 ED17317 **FIFLLI INSTRUCTION* (1) ED660040 ED1600034 ED16010 ED17317 ED17316 ED17316 ED17317 **FIFLLI STUDIES (4) ED060046 ED1600034 ED1601251 ED171470 ED180310 ED093619 ED004048 ED167486 **FIELD STUDIES (4) ED060046 ED060034 ED1601251 ED171470 ED180310 ED093619 ED004048 ED167486 **FIELD STUDIES (4) ED060046 ED060034 ED1601251 ED171470 ED180416 ED167486 **FIELD STUDIES (5) ED060061 ED060044 ED167488 **ED060061 ED060034 ED1601251 ED171470 ED1806156 **FIELD STUDIES (5) ED060061 ED060062 ED067218 ED079588 ED093160 ED094048 ED167486 | *FACILITY INVENTORY | · <u>-</u> | (i) | ED067233 | | • | | • | • | • | |
| FACULTY HANDBOOKS | FACILITY INVENTORY | | (1)- | ED170101 | | • | | | | | |
| FARILY LIFE (1) ED075315 #FAMILY PLANKANG (1) ED193029 FAMILY PLANKANG (1) ED162643 ED171597 ED179417 ED266517 #FAMILY PLANKANG (4) ED162643 ED171597 ED179417 ED266517 #FAMILY ROLE (1) ED193419 #FEDERAL LEGISLATION (1) ED193419 #FEDERAL LEGISLATION (1) ED193842 #FEDERAL LEGISLATION (4) ED167395 ED167317 ED183297 ED186156 #FIELD EXPERIENCE PROGRAMS (4) ED69356 ED167317 ED183297 ED168285 ED171478 #FIELD EXPERIENCE PROGRAMS (3) ED651011 ED16806 ED158930 #FIELD INSTRUCTION (13) ED063049 ED167317 ED183297 ED16285 ED171478 #FIELD STUDIES (4) ED063056 ED17366 ED17366 ED174366 ED167480 ED0646165 ED066465 ED0666165 ED06646 ED0666165 ED066465 ED0666165 ED066465 ED066465 ED0666165 ED066465 | FACULTY DEVELOPMENT | t . | (D | ED 16597.0 | . • | 20.00 | • | | ٠. | | • |
| #FAMILY PLANNING (1) ED193629 FAMILY PLANNING (4) ED162643 ED171597 ED179417 ED266517 FAMILY PLANNING (4) ED162643 ED171597 ED179417 ED266517 FAMILY ROLE (1) ED193416 #FEDERAL GOVERNMENT (1) ED262946 FEDERAL LEGISLATION (1) ED193842 FEDERAL RECULATION (4) ED179795 FEMALES (2) ED187875 ED214842 FIGURE EXPERIENCE PROGRAMS (1) ED179443 #FIELD EXPERIENCE PROGRAMS (4) ED69956 ED167317 ED183297 ED186156 #FIELD INSTRUCTION (5) ED66049 ED167317 ED183297 ED186285 ED171475 FIELD INSTRUCTION (13) ED69949 ED167317 ED171366 ED173117 ED174364 ED174365 #FIELD STUDIES (4) ED661659 ED067218 ED067268 ED0693619 ED094948 ED167486 #FIELD STUDIES (9) ED061699 ED067218 ED067268 ED0693619 ED094948 ED167486 | - FACULTY HANDBOOKS | | CD | ED175590 | , ·' | • | ė. | | , | | |
| **FIELD STUDIES (1) ED147216 (2) ED152643 ED171597 ED179417 ED286517 **ED14711 FOLE (1) ED193419 (1) ED202940 (1) ED202940 (1) ED19342 (1) ED19342 (2) ED187875 ED214842 **FIELD STUDIES (3) ED069468 ED063251 ED09948 ED167317 ED174364 ED167480 **FIELD STUDIES (4) ED069468 ED067218 ED09958 ED09519 ED099448 ED167480 | FAMILY LIFE | • | (D * ~ | ED075315 | | · . | P3 | . '•• | , , | | |
| FAMILLY PLANNING | *FAMILY LIFE EDUCATION *** 1 | | s(Ì) | ED193029 | > | | • | , | * *****: | | |
| #FABILY ROLE #FEDERAL GOVERNIERT (1) ED262946 #FEDERAL LECISLATION (1) ED153842 #FEDERAL RECULATION (1) ED179795 #FEVALES (2) ED187875 ED214842 #FICSS (1) ED104794 #FIELD EXPERIENCE PROGRAMS (4) ED069956 ED167317 ED183297 ED186156 #FIELD EXPERIENCE PROGRAMS (3) ED061011 ED16896 ED16938 #FIELD INSTRUCTION (5) ED058049 ED167317 ED170456 ED171475 #FIELD INSTRUCTION (13) ED059949 ED167317 ED170456 ED171476 #FIELD STUDIES (4) ED069468 ED00034 ED163251 ED170474 ED166156 #FIELD STUDIES (5) ED069468 ED00034 ED163251 ED21366 #FIELD STUDIES (6) ED069661 ED269662 ED067218 ED070588 ED09369 ED094948 ED107480 | PANILY PLANNING | | cn 3 | ED147216 | ` <u>.</u> | ٠. | | · /5» | | • | ٠. |
| ### FEDERAL LEGISLATION (1) ED193842 FEDERAL LEGISLATION (1) ED197975 FEDERAL RECULATION (1) ED179795 FENALES (2) ED187875 ED214842 FICES (1) ED104794 FICTION (1) ED179443 FIELD EXPERIENCE PROGRAMS (4) ED059956 ED167317 ED183297 ED186156 FIELD EXPERIENCE PROGRAMS (3) ED051011 ED158956 ED158938 FIELD INSTRUCTION (5) ED059949 ED167317 ED198075 ED160285 ED171475 FIELD INSTRUCTION (13) ED059949 ED167317 ED176361 ED173117 ED174364 ED174365 FIELD STUDIES (4) ED069468 ED060334 ED163251 ED21365 FIELD STUDIES (9) ED061959 ED067218 ED07958D ED093503 ED094948 ED107486 | FAILLY PLANNING | | (4) | ED152643 | ED171597 | ED179417 | ED206517 | | • | • | |
| FEDERAL LEGISLATION | "FAHILY ROLE | . • | (i) **~ | ED193410 | | | . | • | ₩ . | • • | |
| FEDERAL RECULATION | *Federal Covernment | | (1) | ED202940 | | , | | | | • | |
| FENALES (2) ED187875 ED214842 FICSS (1) ED104794 **FICTION (1) ED179443 **FIELD EXPERIENCE PROGRAMS (4) ED059950 ED167317 ED183297 ED186156 FIELD EXPERIENCE PROGRAMS (3) ED051011 ED158936 ED158938 **FIFLI! INSTRUCTION (5) ED058049 ED167317 ED180375 ED160285 ED171475 FIELD INSTRUCTION (13) ED059949 ED167317 ED170101 ED171456 ED173117 ED174364 ED174365 **FIELD STUDIES (4) ED069468 ED060334 ED103297 ED180359 ED093619 ED094948 ED107480 FIELD STUDIES (9) ED061059 ED067218 ED070588 ED093589 ED094948 ED107480 | FEDERAL LECISLATION . ` | | (I) | ED153842 | : : | - AND | -3 , | • • | Jain " | | |
| FICTION CI | FEDERAL REGULATION | | *(·1) , | ED179795 | 4 | 1 | ** | . ' Y | | | |
| #FIELD EXPERIENCE PROGRAMS (4) ED05950 ED167317 ED183297 ED186156 FIELD EXPERIENCE PROGRAMS (3) ED051011 ED1589 ED158930 #FIELD INSTRUCTION (5) ED058049 ED167317 ED176101 ED171256 ED173117 ED174364 EB174365 #FIELD INSTRUCTION (13) ED059949 ED167317 ED176101 ED171256 ED173117 ED174364 EB174365 #FIELD STUDIES (4) ED069468 ED060034 ED163251 ED2131365 #FIELD STUDIES (9) ED061059 ED067218 ED070588 ED093619 ED094948 ED107480 | PENALES 1 | | (2) | ED187875 | ED214842 | | ţ - | , | | • • | |
| #FIELD EXPERIENCE PROCRAMS (4) ED659950 ED167317 ED183297 ED186156 FIELD EXPERIENCE PROCRAMS (3) ED651011 ED158936 ED158930 #FIELD INSTRUCTION (5) ED658049 ED167317 ED170101 ED171476 FIELD INSTRUCTION (13) ED659949 ED167317 ED170101 ED171456 ED173117 ED174364 EB174365 #FIELD STUDIES (4) ED669468 ED66034 ED163251 ED211365 #FIELD STUDIES (9) ED661659 ED667218 ED670588 ED693582 ED694948 ED167480 | PICSS TO A | | (1) | ED104794 | | Marie Series | 7, | 4 | | | |
| #FIELD EXPERIENCE PROCRAMS (3) ED051011 ED158936 ED158930 #FIELD INSTRUCTION (5) ED058049 ED108274 ED108675 ED166285 ED171475 [13] ED059949 ED167317 ED176101 ED171356 ED173117 ED174364 EB174365 ED174366 EB174366 EB174366 ED173568 ED183297 ED184734 ED186156 #FIELD STUDIES (4) ED069468 ED080344 ED103251 ED211365 FIELD STUDIES (9) ED061059 ED067218 ED070588 ED093582 ED093619 ED094948 ED107480 | Aricrion () | • • • | (1) | ED179443 | | | | , | " grigational a | | • |
| #FIELD INSTRUCTION (5) ED058049 ED108274 ED108275 ED160285 ED171475 PIELD INSTRUCTION (13) ED059949 ED167317 ED170101 ED171456 ED173117 ED174364 ED174365 ED174366 ED174366 ED174366 ED174368 ED183297 ED184734 ED186156 #FIELD STUDIES (4) ED069468 ED080334 ED03251 ED211365 PIELD STUDIES (9) ED061059 ED067218 ED070588 ED093582 ED093619 ED094948 ED107480 ED209061 ED209062 | *FIELD EXPERIENCE PROGRAMS | • | (4) | ED059950 | ED 167317 | ED183297 | ED186 156 | *** | | • | |
| #FIELD STUDIES (4) ED069468 ED067218 ED070588 ED093589 ED094948 ED107486 #FIELD STUDIES (9) ED061059 ED067218 ED070588 ED093589 ED094948 ED107480 ################################### | FIELD EXPERIENCE PROCRAMS | | (3) | ED051011 | ED 158906. | ED158930 | | San | May John | | |
| #FIELD STUDIES (4) ED069468 ED060334 ED103251 ED211365 *FIELD STUDIES (9) ED061059 ED067218 ED070588 ED093589 ED093619 ED094948 ED107480 ED209061 ED209062 | #FIFLE INSTRUCTION | | (5) | ED058049 | ED 102874 | ED108875 | ED 160285 | ED171475 | • | | |
| *FIELD STUDIES (4) ED069468 ED080334 ED163251 ED211365 FIELD STUDIES (9) ED061059 ED067218 ED070588 ED093589 ED093619 ED094948 ED107480 ED209061 ED209062 | FIELD INSTRUCTION | | (13) PB174366 | ED059949 | E0167317 | ED170101 | ED171456 | | ED174364 | EB174365 | • |
| FIELD STUDIES (9) ED061059 ED067218 ED070588 ED093589 ED093619 ED094948 ED107480 ED209061 ED209062 | *Figin equate | | • » * | | | 100 | 8867 | 20.00 | | en mu | • |
| ED209061, ED209062 | | | | | | | M | FDAQAATA | ED004048 | FD107490 | |
| | | Service | | ED209062 | | | | | - 200 | | |

| *FIELD TRIPS | (20) ED170101 ED206420 | ED96 1059 ED171456 ED206421 | ED138527 ED174371 ED211358 | ED156529 ED180832 ED211373 | ED156530 ED182144 ED211377 | ED 156531 ED 183321 | ED156532 ED188868 | ED158930 ED194302 | |
|------------------------------------|--|--|--|----------------------------------|--|--|--|--|------------|
| FIELD TRIPS | (46) EB099221 ED142488 ED165975 ED176908 ED195403 | ED024484 ED100778 ED142489 ED165976 ED176911 ED195544 | ED070588 ED102048 ED143531 ED165977 ED180311 ED200410 | ED099216 ED107480 | ED099217 ED113214 ED166204 ED171475 ED189813 ED206466 | | EB099219 EB121566 Eb165970 Eb173117 ED186246 ED209062 | ED099220 ED121568 ED165973 ED174431 ED187435 | |
| FILMS | (5) | ED062176 | ED103294 | ED121565 | ED14248 J | ED160528 | • | | |
| FILMSTRIPS | (2) | ED056873 | EB956874 | . , | , | | | | |
| FINANCIAL SUPPORT | (3). | ED067202 | ED151123 | ED158930 | | | | | |
| FINE ARTS | (2) | ED091172 | ED173072 | • • • | | - | , | • | |
| FIRST AID | (2) | ED 134455 | ED183297 | _ | | | | | |
| ≉F1Sii | (1) | ED 14 1 145 | | • | * | • | | | , |
| FISH | CD - 3 | ED103238 | | | | • | 1 | | - / |
| *F ISHERIES | (3) | ED202724 | ED206470 | ED211375 | • | 1 | | | • |
| FISHERIES | (i) . | ED 144788 | , | | : | - | | ~ ,• - | |
| | | *************************************** | | , | . , | | ٠. | | , |
| FISHES | (3) | ED086485 | ED086486 | ED086487 | | | | | • |
| *FISHING | (D | ED158906 | • | | | | | | |
| FISHING | CD , | ED183297 | | | | • | • . | • | 4 |
| ⇒FLORI DA 🥎 | (2) | ED107480 | ED128289 | Appeter . | | | , | | |
| "FLORIDA | (7) | ED059958 | ED961126 | ED062234 | ED142429 | ED142433 | ED175724 | ED175726 | |
| *FLORIDA (PINELLAS COUNTY) | (I) (I) | ED120053 | • ' | | • ` | 1 1 | | | 2 |
| FOCUS ON INNER CITY SOCIAL STUDIES | (D) | ED104794 | • | , , | • | , | | | , , |
| *FOLK CULTURE | CĎ . | ED200418 | • | | | | | | |
| FOLLOHUP STUDIES: | CD · | ED175590 | , | | • | , , | ٠ . | | |
| #FOOD | (9) ED199120 | ED116981 ED207811 | ED120054 | ED124451 | ED141159 | ED153841 | ED162885 | ED193031 | |
| FOOD | (6) | 1,00 | FD153922 | FD166969 | ED100146 | Fn204684 | ED214842 | | |
| FOOD PRODUCTION | (1) | ED219271 | LD 100720 | ED160282 | 20177140 | | | | |
| -koods-instruction- | (1) | _ED219271_ | , Ass | | | , i | | | |
| FOOD STAIRS | 60% | ED141427 | , | , | | | 李 " | | , t |
| *FOREICH COUNTRIES | CD4 | ED179484 | | | | , | | | nder er j |
| O IN COUNTRIES | (1); | ED070635 | ED125930 | ED156594 | D156595 | ED100417 | ED198018- | RDSOAGRA | *** |
| ERIC 235 | (4) ED206517 | THU TOUG | | 20.000,74 | JIV 1000 30 | ************************************** | 20100010 | 7 . A | |
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|-------------------------------|---|--|---------------------------------------|------------------------------------|--|-------------------------------------|---------------------------------------|
| *FORESTRY FORESTRY | (7) ' (3) | ED097221 ED165976 ED051993 ED059947 | ED 182 144 ED 173 082 | ED201423 | ED204105 | ED211361 | ED218154 |
| *FORESTS | (2) | ED195389 ED204105 | • | * | | | ا ميد |
| FRACTIONS | (1) | ED167401 | | | | ₹ 0 | ` |
| PRIENDSHIP | (1) '2 | ED093743 | | | | <i>.</i> | |
| *FUEL CONSUMPTION | (6) | ED167371 ED167372 | ED179374 | ED179395 | ED190353 | ED191745 | |
| FUEL CONSUMPTION | (19) ED184859 ED187557 | ED101959 ED125885 ED184863 ED185281 ED190344 ED190348 | ED173072 ED186282 ED191743 | ED176960 ED186315 | ED17935 f | ED180826 ED187554 | ED182137 ED187555 |
| *FUELS | (7) | ED179374 ED179375 | ED184859 | ED186281 | ED187554 | ED187557 | ED219272 |
| PUELS | (21) ED173072 ED190344 | ED699199 ED099200 ED179395 ED180826 ED212492 ED212493 | ED167449. ED182137 ED212494 | ED167450 * ED184863 ED219244 | ED16745 1. ED186315 ED219274 | ED167452 ED106316 | ED167454 ED187555 |
| *FUNDAMENTAL CONCEPTS | (2) 👌 | ED062182 ED071868 | - | | | | |
| NUNDAMENTAL CONCEPTS | (7) | ED080367 ED089368 | ED9816 9 7 | ED091172 | ≈ED193058 | ED 193 059 | ED 193060 |
| *Fused Curriculum | (3) | ED053945 ED053946 | ED199109 | • | | • | • |
| FUSED CURRICULUM | (2) | ED199114 ED199115 | , , | | , | | |
| PRUTURES (OF SOCIETY) | (12) ED 199 175 | ED110396 ED111716 ED200279 ED201561 | ED164417 ED212411 | ED171597 ED219287 | ED179980 | EB190346 | ED199115 |
| EUTURES (OF SOCIETY) | (-25) ED147224 ED167451 ED214838 | ED092437 E0092096 ED151297 ED157020 ED167452 E0104662 ED214841 | ED103294 ED160528 ED194440 | ED113269 ED167365 ED195396 | EDI 16981 ED167366 ED195544 | ED 130927 ED 167449 ED 199114 | ED147223 ED167450 ED199116 |
| *FUTUROLOCY | (1) | ED055940 | | | • | | |
| CANES . | (5) | ED099235 ED141116 | ED160285 | ED184735 | ED216828 | | |
| GATIE THEORY | (6) | ED179411: ED179412 | ED179414 | ED179415 | ED179416 | ED179417 | |
| CASOHOL | \mathbf{Q} | ED219275 | · · · · · · · · · · · · · · · · · · · | | | | |
| GRURITYT SCIENCE | (3) | ED0 17377 ED035540 | ED127160 | | - | • | |
| *CENETICS / | (1) | ED103237 | • | • | | | • , |
| #GEOGRAPHIC CONCEPTS | . (5) | ED088722 ED125925 | ED147222 | ED147223 | ED147224 | . | • |
| GEOCRAPHIC CONCEPTS | (8) ED215920 | ED125928 ED125931 | ED138538 | ED146084 | ED12923 | ED156594 | ED156595 |
| CEOCKAPHIC RECIONS | (2) | .ED138527 ED163297 | 14.7 14.5 | | en e | 2.0 | and growing |
| SCEOGRAPHY | (6) | ED116946 ED198013 | ED198017 | ED202717 | ED202719 | ED202726 | |
| GEOGRAPHY | (13) ED156593 | ED017377 ED051011 ED156594 ED156595 | ED088722 ED177014 | ED124450 ED187554 | ED124451 ED209481 | ED133151 | ED146084 |
| *CEOGRAPHY CURRICULUM FROJECT | (1) | ED146084 | | | | * 4 | |
| © | | The state of the s | | | · | • | , , , , , , , , , , , , , , , , , , , |
| EDÍC and | | | | | • | . , | ううろ |

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| *GEOGRAPHY INSTRUCTION | (16) ED:38538 ED:66301 | ED088722 ED146084 | ED125925 ED147222 | ED 125928 ED 147223 | ED125930 ED147224 | ED125931 ED156598 | ED1 25 933 ED156594 | ED 138527 ED 156595 | |
| GEOGRAPHY INSTRUCTION | (3) | ED125937 | ED125938 | ED 150079 | · · . | | | | ٠, |
| *GEOLOGY | (4) | ED179356 | ED198010 | ED200410 | ED206468 | • | • | • | • |
| , GEOLOGY | (8) ED216927 | ED043501 | ED141175 | ED164192 | ED198011 | ED205346 | ED209061 | ED216828 | _ |
| GEORGIRY | (2) | ED100669 | EDÎZYOTA | <u>-</u> | | | | | |
| #GEORGIA (ATLANTA) | (D) | ED156593 | • | : , | 3 | | | | . *. |
| SCHANA (ACCRA) | CD | ED 157817 | N ew | | 1 | | | • | |
| COFFED | (2). | ED159783 | ED181656 | 1 | ļ. · | | ` | | |
| CLENCOE ENVIRONMENTAL EDUCATION CURRICULUM | co. | ED171466 | 1 | / | · | ~ | | | |
| =GLOBAL APPROACH | (31) E0135694 E0179436 E0212411 | ED103294 ED142481 ED183456 ED212519 | ED116981 ED153923 ED187629 ED214838 | ED 120044 ED 155069 ED 188977 ED 215921 | ED120049 ED157819 ED196788 ED215923 | ED 120054 ED 159 106 ED 199 120 ED 215939 | ED130927 ED164417 ED200401 -ED216369 | ED135690 ED167367 ED269125 ED218204 | <i>,</i> · |
| GLOBAL APPROACH | (17) ED152643 ED210182 | ED113269 ED160528 ED211379 | ED120045 ED167368 | ED 120046 ED 171597 | ED121655 ED199146 | ED134535 ED199175 | ED 134536 ED 200414 | ED134538 ED202717 | |
| *GLOSSARIES | (1) 4 | ED167454 | 3000 | . / | `. | • | | | **** * |
| COVERNMENTAL STRUCTURE. | (1) · · · | ED051012 | ** | · / | | | • | | |
| GOVERNMENT PUBLICATIONS | CD | ED204105 | | • | | | | | , |
| *COVERIMENT ROLE | (2) | ED051012 | ED179795 | : | | | | a, | |
| COVERNMENT ROLE | (3) | ED059958 | ED101943 | ED 134526 | • | • | • , | | · |
| CRADE 1 | '(1), | ED153846 | • | * - | , | | • | | • |
| CRADE 1 | (9) ED174442 | ED061118 ED206466 | ED992089 | ED099216 | ED100653 | ED 1006 76 | ED149843 | ED167449 | |
| SCRADE 10 | <u></u> | ED061061 | ٠. | . • | , - , | ·,— | | | • |
| CRADE 10 | (.6) | ĖD059958 | ED061126 | ED134538 | ED157819 | ED167452 | E0173057 | - | ٠ |
| GRADE 11 | (8) *ED167452 | ED059958 | ED961126 | ED 1 132 16 | ED 184526 | ED134538 | ED157019 | ED 157820 | |
| ⇒GRADF 12 | (2) | ED055864 | ED197924 | | . • | | · - · , | . 31 | , . |
| CIÂDE 12 | (11) ED120069 | ED059958 ED134538 | E006 1126 E0157820 | ED066366 ED167452 | EB066407 | ED103294 | ED1 18256 | ED120068 | |
| SCRADE 2 | (1) | ED183357 | <i>'</i> | | | | | | |
| GRADE 2 | (11) ED167449 | KD051011 ED169256 | ED092389 ED193058 | ED099217 ED206467 | ED100654 | ED142429 | ED149843 | ED153845 | . v |
| FRIC 239 | (1) | ED167402 | • | | | | | 0.40 | • |
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| | (12) ED193959 | ED951912 ED294183. | ED061118 ED206468 | ED092390 ED214792 | ED099218 ED216081 | ED100655 | ED149843 | ED167449 |
| * | (14) ED167450 | ED092390 ED182189 | ED099219 ED186315 | ED100656 ED194440 | ED 134536 ED 204184 | ED 135694 ED 206469 | ED150079 ED214792 | ED153859 |
| | (4) | ED068368 | ED094912 | ED096085 | ED182114 | | | _ |
| • • | (18) ED 197063 ED 206420 | ED059949 ED153059 ED206470 | ED092391 ED167450 ED211369 | ED099220 ED178231 | ED100657 ED182180 | ED 104639 ED 1863 15 | ED134536 ED194440 | EB135694 ED264185 |
| | (10) ED175593 | ED024484 ED175594- | EB027991 ED196577 | ED059085 | EB071836 | ED175590 | ED175591 | ED175592 |
| | (26) ED100778 ED157817 ED206471 | ED038222 ED101941 ED157834 ED210171 | E0038223 ED104639 ED167450 ED211389 | ED038224 ED113214 ED178232 | _ED992391 ED184536 ED186315 | ED099224 ED195694 ED194446 | ED100658 ED142403 EB254186 | ED100712 ED146048 ED206421 |
| 7 | CD | ED182113 | | , | | | • | - ' |
| | (13) ED157817 | ED062234 ED157035 | EB099210 ED158301 | ED100668 ED167451- | ED101942 ED186316 | ED 134537 ED 199120 | ED146084 | ED151297 |
| | (14) ED157818 | ED059950 ED157836 | _ED962234 _ED15 68 02 | `ED964 187 -ED 16745 1~ | ED101948 - ED186316 | ED128289 - ED193060_ | ED134537 _ED211365_ | ED 15 (297 |
| | .CD | ED182110 | | | • | - | 100 | |
| | (17) ED157819 ED190362 | ED062234 ED157837 ED190363 | ED987688 ED158000 - | ED 104794 ED 167451 | ED113215 ED176908 | ED128289 ED186316 | ED 134537 ED 196360 | ED157818 ED190361 |
| • | (7) | ßD102048 | ED 103252 | ED120045 | ED 120046 | ED 124451 | ED147216 | .ĘD157817 |
| , | (D) | ED207851 | | | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | | | , . |
| | (4) | ED202717 | ED202719 | _ED202724 | ED202726 | | - | |
| | (D) | ED202940 | • | | | | • ' | *** *** |
| - | CD , | ED214842 | , i | , | , , | | • • | |
| | (5) | ED174365 | ED 174366 | ED174368 | ED178232 | ED 179794 | · | |
| . • | (11) ED187485 | ED147581 ED206420 | ED147582 ED206424 | ED147589 EB213164 | ED147590 | ED151297 | ED174364 | ED174367 |
| • | (2) | ED158302 | ED156303 | | | • • • | , t | |
| - | - С Ф | ED178232 | | | | | • | |
| | (2) | ED165970 | ED201421 | | | | | |
| | (3) | ED261422 | ED201523 | ED201424 | , , | • | , | |
| , | (5) | ED067233 | ED092386 | ·ED 190820 | ED 158930 | ED159106 | | 1 |
| , | (13) EB071267 | ED033784 ED118360 | EB930708 ED125688 | ED0653 0 9 ED1816 5 6 | EB066308 EB202940 | ED071264 ED211/294 | ED071265 | ED071266 |
| | (13) ED086405 | ED070913 ED086486 | EB086237 ' | ED985248 EB99238B | ED085249 ED107471 | EDØ86482 ED157662- | ED086483 | ED086484 |

GRADE 3

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GRAPHS

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| GUIDES *HANDICAPPED | (6) | ED086499 ED134408 | ED086507 | ED089993 | ED175591 | ÊD175592 | ED178232 | • • | , |
| *HANDICAPPED CHILDREN | \mathbf{O}_{-} . | ED144332 | , | | | | • | | , |
| *HANDICRAFTS | (2) | ED184735 | ED211369 | | | , A. | TA . | | |
| HANDICRAFTS . | (4) | ED173062 | ED175728 | ED175729 | ED204084 | | | | |
| HARVARD PROJECT PHYSICS | (Đ), | ED059901 | | • | | , | | 1 | |
| *HAVAY J | (3) | ED173062 | ED195396 | ED204138 | • | • • | | Į. | |
| HAWAI I | , ~ (2) | ED214794 | ED215863 | | | - | | | |
| HAWAII OUTDOOR EDUCATION CENTER | ै क्(1) 🛕 | ED173062 | * | * * | | ∞€ . | | | |
| HEALTH | (7) | ED024484 | ED141 Î59 | ED160281 | ED160282 | ED160284 | ED174435 | ED187629 | |
| , HEALTH ACTIVITIES | (1) | ËD219286 | • | ¥ | | · · | | · · | |
| *HEALTH EDUCATION | ં ું હું6) | ED141081 | ED179412 | ED182132 | ED 193028 | ED20 1509 | ED201510 | • | |
| HEALTH EDUCATION | (17) ED17 44 79 | ED075315 ED176910 | ED130224 ED176911 | ED133225 ED187629 | ED 134455 ED 201508 | ED157666 ED202724 | ED164341 ED212458 | ED171456 ED212459 | |
| | E0212460 | ED212461 | | | | | | . \ | |
| HEALTH MATERIALS | (1) A | ED193028 | · | _ | | | | . \ | • |
| HEAT | , (2) | ED1674 0 9 | ED183392 | | • | | • . | • | |
| HEATING | (3) | ED182137 | ED219270 | ED219275 | • | ; | | , | |
| HEREDITY | ĊĎ, | ED219287 | | | | • | | * . | |
| *HIGHER EDUCATION | (3) | ED167373 | ED167374 | ED201501 | • | `, | | | |
| HIGHER EDUCATION | (36) ED133212 | ED1117.16 ED133213 | ED113269 ED133214 | ED 133207 ED 133215 | ED133206 ED133216 | ED133209 ED133217 | ED133210 ED133218 | ED133211 ED133219 | |
| | ED133220 ED167368 | ED105656 ED167369 | ED137063 ED167020 | ED 1472 16 ED 16737 1 | ED 152499 ED 167372 | ED152643 ED171466 | E0164417 ED171597 | EDI67367 | |
| · · · · · · · · · · · · · · · · · · · | ED179484 | ED 18897.7 | ED 190400 | ED194302 | ED2 19287 | | , | | |
| HICH SCHOOL POLITICAL SCIENCE CURRICUL PROJECT | LUM (2) | ED120068 | ED120069 | | | | | | |
| THICH SCHOOLS | . co | ED017377 | - | |] | | • | ~. | 1 |
| HICH SCHOOLS | (16) | ED0'85163 | ED166014 | ED210172 | ED211308 | ED213583 | ED216828 | ED219268 | , |
| | ED219269 ED219277 | ED219270 | ED219271 | ED219272 | EDZ 19278 | ED219274 | ED2 19 27 5 | ED219276 | |
| *HICH SCHOOL STUDENTS | (3) | ED 173057 | ED175392 | ED176908 | | | , | · • • | : |
| HICH SCHOOL STUDENTS | °, CD | ED216828 | | | | | · _ | 1 | |
| ніківе | ~ (D | ED216828 | · · · · · · · · · · · · | **** | | * , , | | f- 200 | |
| ≈HILLSIDE DUTDOOR EDUCATION CENTER NY | (D) | ED 184734 | | * *** ** | •,* | - | | 1 | |
| EHISTORY | (5) | ED 100660 | ED100674 | ED 156529 | ED183416 | ED187555 | | | |
| ιτιοίνηγ | (15) | ED017377 | ED 101943 | ED138527 | ED153843 | ED150844 | ED156530 | ED156531 | ٠. |
| ERIC 243 | | | | | | | 3-1 | 24 | 4 |
| Full Text Provided by ERIC | 100 | A | . ₹. · · · · · | was the second | | | | | - 5 % |

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| *HISTORY INSTRUCTION | ED156532 (1) | ED160284 ED212519 | ED173072 | ED173163 | ED179374 | ED179375 | ED184862 | ED216081 |
| HISTORY INSTRUCTION . | (4) | ED134526 | ED156593 | ED156594 | ED156595 | • | • | • • |
| HOUIDAYS | , CD | ED128081 | | - | • | | | • |
| #HOME ECONOMICS | (2) | ED180826 | ED219278 | | • | | · | • |
| ROME ECONOMICS | (10) ED199109 | ED157768 ED207824 | ED167413 ED219271 | ED171456 | ED179395 | ED190350 | ED191743 | ED191745 |
| AHOUE ECONOMICS EDUCATION | (4) | ED100690 | ED167413 | ED 177012 | ED193029 | , · | | |
| HOME ECONOMICS EDUCATION | (2) | ED179421 | ED160826 | , , , , , | . ' | | • ' | |
| HOME ECONOMICS TEACHERS | (1) | ED193029 | , 0 | | | | 9 | |
| *Hone fundishings ' | (1) | ED2 19269 | , | • , | · >: | · · | بنسيد. | |
| TIONE HANAGERENT . | (1) | ED167413 | <u>.</u> 11. | | | | • | 4 |
| HOHE MANAGEHENT | (r) | ED 180826. | , . | 7 | | | • • | |
| ROME PROGRAMS | ``, (1) _* | ED168725 | • | | • | | , ´,` | 8 |
| HORSES | , co | ED162905 | | | | | | · ** 🍎 |
| HORSESHOE PITCHING . | (1) | ·`ED183297 | | * 14 | • | • | | , |
| *nousing | (3) | ED100649 | ED219269 | ED219270 | • | | • | •• |
| HOUSING | (2) | ED107466 | ED219278 | | 5- 4-6 | . COMPA | | |
| HOUSING DISCRIMINATION | (1) | .ED202940 | <u>.</u> : | | . ; | | | |
| HOUSING NEEDS | (D) | ED100649 | • . | | • | • | | † , |
| HOUSING PATTERNS . | . (Q | ED 100649 | | | : • | : | | 4 , • |
| KUMAN CAPITAL | CD. | EĎ171597 | • | | | • | • | , "" |
| HUMAN DEVELOPMENT | (2) | ED086522 | ED152643 | • | • | | , ~*** <u>*</u> | |
| *HUMAN DIGNITY | - CD, | ED153923 | • • • | | | · | ₹ | |
| HUHAN DIGHTYA | (1) | ED055864 | | • . | , , | | | |
| HUMAN ENGINEERING | $\mathbf{O}_{\mathbf{v}}$ | ED123136 | | | | | | |
| #HUMAN GEOGRAPHY | (5) | ED055015 | ED088722 | ED 103294 | ED120045 | ED130927 | | |
| HUMAN GEOGRAPHY | (7) | ED055940 | ED100778 | ED142481 | ED142488 | • | | ED156593 |
| #HUDAHISM } | (1)- | ED092437. | | | | | 3 | • |
| #HUHANISTIC EDUCATION | (6) | ED125937 | ED125938 | ED135694 | ED182118 | ED187485 | ED188977 | |
| HUMANISTIC EDUCATION | (p) | ED 135690 | \cdot \cdot \cdot \cdot | | ı | • | | |
| PHUMARITIES | ं के के हैं, व | ED092437 | • (| • | | | | San |
| O ITTES | (2) | ED059948 | ED082978 | e de la companya de l | | • , | · · | Mis . |
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| *HUMANITIES INSTRUCTION HUMANITIES INSTRUCTION | *(2) * (1) | ED180833 ED212519 ED059926 | | * | . * , |
| *HUMAN RELATIONS | (3) | ED693743 ED206420 | ED206421 | | . 1 |
| HUMAN RELATIONS: | (3) | ED067304 ED14243 | ED188977 | e , | |
| . HUMAN RELATIONS UNITS | (2) | ED051011 ED051012 | - | * <u>.</u> . | 4 |
| Huhan resourcës | (2) | ED176908 ED21,6828 | , | • | |
| * IUNGER | (3) | ED116901 ED120049 | ED120054 | | |
| HUNTER SAFETY | (D) | ED183297 | | | |
| "HUNTING 😁 | $\dot{z} = \dot{z} \dot{\omega}$ | ED150906 | | · · | - |
| SHUITING | i (i) 🔨 🕆 | ED176905 | | Total Control | |
| nýciene. | (2) | ED017377 ED071836 | in the same | | • ′ • |
| ICE . | (1) | ED103249 | | • | * |
| *ICHTHYOLOGY | · · · · · · | ED219284 | ton. | | |
| ILLINOIS | (2) | ED096085 ED125888 | | • | |
| SILLINGIS (DUPAGE COUNTY) | (1) | ED171466 | | | |
| ILLIKOIS (ELCIŅ) | ** ** (1) * | ED176911 | • • | | • |
| ILLUSTRĀŤIOKS | (10) ED17 4 366 | 'ED125928 ED157666 ED174367 ED174366 | ED160282 ED160284 | ED160286 ED174364 | ≇ED174365 |
| IMICRANTS | ្ណុរ | ED160528 | • | | |
| *IRCONE | i in it | ED141427 | | | |
| = INDEPENDENT STUDY | (3) | ED106084 ED180757 | ED201501 | | · |
| INDEPENDENT STUDY | (6) | ED101945 ED103213 | ED147581 ED147582 | ED147589 ED147590 | · · |
| "INDIANA | (2) | ED093621 ED135646 | | | |
| INDIANA | (10) ED219275 | ED219268 ED219269 ED219276 ED219277 | ED219270 ED219271 | ED219272 ED219273 | ED219274 |
| , INDIVIDUAL, DEVELOPMENT | (3) | ED055018 ED187485 | ED188977 | | |
| *INDIVIOUALIZED INSTRUCTION | (3) | ED190360 ED190361 | ED190362 | | • |
| INDIVIDUALIZED INSTRUCTION | (2) | ED089899 ED190368 | | | |
| INDIVIOUAL NEEDS | (2) | -ED214888 , ED215921 | | | |
| INDIVIDUAL POWER | · -=- (1) | ED157035 | *** | | |
| INDUCTIVE METHODS | (4) | ED073032 E0003722 | ED125931 ED174436 | Λ | |
| #INDUSTRIAL ARTS | (4) | ED100691. ED100692 | ED175728 ED182137 | | |
| THOUSTRIAL ARTS | (6) | ED162897 ED175729 | ED179395 ED179421 | ED207018 ED207824 | |
| ERIC 247 | | | | Control of the Contro | 248 |

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| *INDUSTRIALIZATION INDUSTRIALIZATION | (1) (6) | ED099213 ED051012 | ED125930 | ED 147222 | ED147224 | ED153843 | ED183456 | |
| INDUSTRIAL TECHNOLOGY | (1) | ED147224 | | ~ | | | | _ |
| *INDUSTRY | (I) | ED 0 99213 | | • | _ | • | | - |
| INDUSTRY | (4) | ED190360 | ED 190361 | ED190362 | ED190363 | | , . | |
| INFART HORTALITY | (1) | ED171597 | | • | | | | |
| INFLATION (ECONOMICS) | (1) | ED147216 | , | | | | | |
| #INFORMATION ANALYSIS PRODUCTS | (1) | ED 182118 | | | | | | |
| INFORMATION ANALYSIS PRODUCTS | (2) | ED167317 | ED173072 | | ٥ | • | • | |
| *INFORMATION DISSEMINATION | (3) | ED20 1422 | ED201423 | ED201424 | | THE STATE OF THE S | | * |
| INFORMATION DISSEMINATION | (2) | ED167355 | ED190353 | • • | 1 m 1 | | - : | |
| INFORMATION SCIENCE | άŝ | ED167454 | | | | ٠. | / - ; | |
| TINFORMATION SOURCES | (2) | ED156463. | ED167413 | | · · · | | | • |
| INFORMATION SOURCES | (5) | ED162886 | ED166016 | ED201422 | ED201423 | ED201424 | i. | |
| #INFORMATION SYSTEMS | (1) | ∉£ Ď167393 | ' | | | • | · | |
| INFORMATION UTILIZATION | (D) | ED151297 | | • | - | ; (d=8€ - 4 | ` t | ₩* |
| . INITIATIVE TESTS | (1) | ED187485 | | · · · · · · · · · · · · · · · · · · · | , , | | •_ | |
| #IN KIND INCOME | in · | ED141427 | | *** | : : | ·- • | | |
| *INOUINY | (1) | ED194306 | | | : . | | | |
| *INQUIRY TRAINING | (3) | ED055015 | EB055018 | ED154999 | | | | |
| INQUIRY TRAINING | (8) ED1 50079 | ED071264 | ED071265 | ED071266 | ED071267 | ED087188 | ED087189 | ED123136 |
| | _ | | * | | ; | | • | |
| SINSERVICE EDUCATION | CD . | ED180794 | | • | • • | | | - |
| INSERVICE EDUCATION | (3) | ED145845 | ED213163 | ED213164 | | | ٠. | · Sm · |
| * INSERVICE PROGRAMS | (1) | ED 165970 | | | | | · · · · · | ن |
| *IRSERVICE TEACHER EDUCATION | (1). | ED 165970 | | • | | | | |
| INSERVICE TEACHER EDUCATION | (2) | ED 16 1754 | ED219327 | , . | | | | |
| THSERVICE TEACHING | CD | ED165970 | | | • | | | |
| #INSTITUTE FOR ENVIRONMENTAL EDUCATION | (2) | ED093619 | ED993648 | | | | | 4 - 4 |
| *Institutes (Training Programs) | (1) | ED 17 1807 | | | | . , , | • • • • | |
| INSTITUTIONS | (4) | ED213589 | ED213581 | ED213582 | ED213583 | | | |
| *Instruction | -(3) | ED062176 | ED092374 | ED092395 | A STATE OF THE STA | | 44-14 | |
| CDIC UCTION 249 | (16) | ED045436 | E0045437 | ED062180 | ED092358 | ED092383 | ED093599 | ED093619 |
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(224) ED056873 ED056874 ED066208 ED067210 ED207221 ED067242 ED672238 ED307244 ED967245 ED067246 EB267004 ED068337 ED06839 ED067242 ED667243 ED307244 ED170608 ED070681 EB871264 ED271266 ED771266 ED771266 ED771266 ED771266 ED771266 ED771267 ED7712

INSTRUCTIONAL MATERIALS

INSTRUCTIONAL AIDS

INSTRUCTIONAL IMPROVEMENT

INSTRUCTIONAL INNOVATION

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| - INSTRUCTION CURRICULUM | ENV RONMENT |
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| (2) | ED027991 | ED113269 | - | | | | |
| (1) | ED171466 | | | | | | • |
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| (3) | ED098084 | ED173115 | ED176911 | | | | |
| (3) | ED093589 | ED176910 | ED216369 | | , | • | • |
| (8) ED216369 | ED053945 | EB053946 | ED959901 | ED093621 | ED123095 | ED153842 | ED 173 1 15 |
| (†1) ED176911 | ED033862 ED182180 | ED134455 ED206418 | ED158841 ED206419 | ED153840 | ED 153859 | ED173117 | ED176909 |
| (2) | ED093748 | ED147224 | • | | | | • |
| (5)· | ED134535 | ED134536 | ED 134537. | ED134538 | ED135690 | | |
| (1) | ED 103294 | | • | , | | | |
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| *INTERMEDIATE SCIENCE CURRICULUM STUDY | (4) . | ED190360 | ED19036 P | ED190362 | ED190363 | | ≠.toolu | • |
| INTERNATIONAL EDUCATION | (3) | ED103294 | ED 142481 | ED212411 | | | _ | • |
| INTERNATIONAL ORGANIZATIONS | \mathbf{O} | ED11698I | • | | - | ` , | | v' |
| INTERNATIONAL PROGRAMS | (1) | ED1 16981 | | | • •. | , | | - |
| *INTERNATIONAL RELATIONS | (1) | ED202717 | | | * ~ | • | - | |
| INTERNATIONAL ORGANIZATIONS INTERNATIONAL PROGRAMS *INTERNATIONAL RELATIONS INTERNATIONAL RELATIONS | (4) | ED135690 | ED153923 | EĎ214838 | ED215921 | | | · |
| INTERNATIONAL STUDIES | (2) : | ED214838 | E0215021 | | | | | • |
| INTERPERSONAL COMPETENCE | (2) | • | ED2 16328 | | | • | | · · · · · · · · · · · · · · · · · · · |
| #INTERPERSONAL RELATIONSHIP | (1) | ED093743 | | | | | 1. | |
| INTERPERSONAL RELATIONSHIP | CO CO | ED216828 | S | *, | • | | .) | |
| #INTERVENTION | - '-(T)2: | ED 170896 | | • | • | • | . (| |
| INTERVIEWS | (2) | ED165977 | ED174071 | · | | rent de la Companya d | · · · · · · · · · · · · · · · · · · · | |
| SINVERTEBRATES | (1) | ED206467 | · ** | • • • | | | .,, | |
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| JUNIOR COUNSELORS (1) ED15766 #**JUNIOR HIGH SCHOOLS (6) ED09211 ED16283 ED166011 ED166012 ED166013 ED166014 ED166015 ED167161 ED167014 ED167015 ED167016 | *IOWA | (I) | ED160418 | | | ٠ | | | , | - |
| JUNIOR COUNSELORS #JUNIOR HIGH SCHOOLS #B0167461 #B0 | JAPAR | (1) | ED051011 | | | _ | | | , | |
| #UNIOR HIGH SCHOOLS Column | JOURNALISM . | (I) | ED157666 | | | ,• | , | | , | |
| The control of the | Junior counselors | Œ | ED175592 | | | | | • | | 7 |
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| *LAND USE | (46) ED05687 ED099210 ED09923 ED125931 ED12593 ED133212 ED13321 ED134526 ED13853 ED174484 ED17835 | 5 ED116946 3 ED128289 3 ED130215 8 ED152541 | ED06724F ED067242 ED120053 ED121565 ED133207 ED133206 ED133216 ED133217 ED156402 ED156593 ED191748 ED195403 | E0121567/ ED E0133209 ED E0133218 ED E0156594 ED | 067249 /ED068348 / | 207 |
| L'VID RE | (26) EB04535 ED137223 ED15647 ED162905 ED17308 ED191747 ED20142 | 0 ED986473 9 ED186480 12 ED174407 12 ED201443 | EB092437 ED133214 | ED 133230 ED ED 157036 ED | 1. T 1765 | |
| LAND USE PLANNING | (1) : ED09928 | 15 The State of th | | | | 9.38 1 |
| *LANCUAGE ARTS . | (23) ED08524 ED158301 ED15830 ED179794 ED18213 | 2 ED158393 | ED100665 ED100666 ED165973 ED169563 ED196704 ED200418 | %ED (59564 ED) | 141142 ED157834 170151 ED170752 206465 ED215923 | 1970年 |
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| LANGUAGE INSTRUCTION | (2) . ED16597 | 3. ED179484 | | | | |
| LANCUAGE PATTERNS | · (1) ED14959 | 4 | | | | 13 |
| LANGUAGE RESEARCH | (1) ED14959 | 4 | • | | | |
| SCANCUAGE SKILLS | (1) ED19305 | 3 | | | | 4 |
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| *LANCUACE VARIATION | (1) ED14959 | 4 | | <u>\</u> | | |
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| *LEAUNING ACTIVITIES | (186) ED03547 ED068366 ED06836 EB080291 ED08934 | 8 ED971368 | ED045437 ED046701 ED071917 ED073913 ED081607 EB082919 | ED075223 ED8 | 62182 ED067218 79068 ED079100 91172 ED092374 | |
| 78 | EB080291 EB08334 EB092376 EB09238 ED101969 ED10203 ED103238 ED10323 ED103246 ED10324 | 9 E0092390 1 ED103496 9 ED103240 | EB092391 EB092395 ED193213 ED193234 ED193241 E\$193242 ED193249 ED193259 | E0099214 - E03 | 91172 EB092374 99215 EB999235 03236 EB103237 03244 EB103245 03252 EB103253 16994 EB116914 | |
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| | ED212492 | ED212493 | ED212494 | -ED213580 | ED213581 | EB213582 | ED213583 | ED214792 |
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| | ED999217 | ED099219 | EB099220 | EB099229 | ED099230 | ED599234 | EB599232 | ED059233 |
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| | ED109672 | ED10003 | ED100574 | ED166686 | ED100000 | ED100683 | ED100089. | ED103690 |
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| | ED109691 | ED100692 | ED 100693 | | ED100395 | ED169696 | ED100697 | . ED100698 |
| | ED101937 | ED101943. | | ED103201 | ED103315 | ED 163233 | ED104609 ' | ED104794 |
| | ED106054, | ED106084 | ED106037 | ED106095 | ED106213 | ED107466 | - ED 107468 | . ED1 10396 |
| • | ED113151 | ED113214 | EDI 13215 | ED 143246 | | ZED114268 | ED116946 | ED118486 |
| | ED119960 | ED119961 | ED1 19962 | ED119963 | ED119964 | ED119965 | ED120045 | ED 128046 |
| | ED 120048. | ED120049 | ED120053 | ED121566* | | ED121654 | ED131628 | ED121656 |
| | ED123034 | ED123055 | ED125939 | ED 125931 | ED125933 | ED12U937 | En 125938 | ED (28031 |
| | ED134448 | ED134449 | ED 104535 | ED 134536 | ED134537 | ED 134538 | ED135690 - | ED 135694 |
| | ED137056 | ED138527 | ED108508. | ED139671 | ED741081 | ED142429 | E1)142433 | ED144786 |
| | ED 144787 | ED144794 | ED144624 | ED144825 | E3147,183 | ED147223 | ED (48581 | ED 149843 |
| | ED149983 | ED150783 | ED151123 | ED153923 | | ED 157681 | ED161754 | ED164617 |
| | ED167395 | ED179101 | ED170141 | ED 175590 | ED17559 t | ED 17690H | ed 179436 | ED179793 |
| | ED 182 1 1 0 | ED182113 | - ED162114 | ED 183321 | ED183357 | ED188908 | E))198989 | ED199120 |
| _ | ED220481 | . ED201561 | ED2C6448 | ED207817 | EB2070113 | ED299061 | EUL-09125 | ED210171 |
| • | ED211378 | ED211379 | E0211008 | Eb212411 | EB212549 | ED214841 | ED2 (4842 | ED215920 |
| | ED215921: | ED215923 | ED215926 | ED218162 | | • | - • | - |
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| | (1) | ED061118 | ليبشاها والمارية | | | • | _ | |
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| • | $(\mathbf{O}_{i})^{-1} = 0$ | ED074038 | 1 | | | | • | |
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| ٠ | (4) | .BD067202 | E0184734 | ED197924 | ED216828 | | • | |
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| | (13) ED179792 | ED147216 | ED164417 | ED174364 | ED174365 | | ED 174367 | ED174368 |
| 1 | .60179792 | ED 179793 | ED179794 | ED179795 | EB206420 | _ED206421_ | | |
| | CD | ED098084 | | | | • . | - | **· , • |
| | V47 | FDOAGOA | | • | , , , , , , , , , , , , , , , , , , , | | | • |
| | (i) | ED 108874 | | | | - + | - / | * - |
| | V13 | EDIAGOLA | ·• | | | · . | | |
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| | (1) 2 | ED200418 | | | 1 | | | • |
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| | .(3) | ED068339 | ED137065 | ED2 19 227 | | • | | |
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| 5 | (3) | ED133217 | ED201423 | ED201424 | | | | • |
| | | 1 m | र्गान्स् _र न विक र्णः | · 77 | , | | | * ** |
| ; | (1) | ED097211 | 9.00 | A-1 | • | · · · | | 000 |
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LEARNING ACTIVITIES

LEARNING ACTIVITY PACKETS

*LEARNING EXPERIENCE

*LEARNING LABORATORIES

LEARNING KODULES

LEARNING PROCESSES

LEARNING STATIONS

LEGAL, RESPONSIBILITY

*LECENDS

*LECISLATION LEGISLATION

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| LEISURE TIME | (1) (16) ED153846 ED183456 | ED099233 ED033812. ED160281 | ED080344 ED160282 | ED081602 ED160283 | ED134535 ED160284 | ED134536 ED160286 | ED134538 ED173159 | ED135696 ED173163 |
| LESSON PLANS | (35) | ED068368 | ED071264 | ED071265 | ED071266 | ED071267 | ED082978 | ED099214 |
| · · · · · · · · · · · · · · · · · · · | ED099215 ED152643 ED175594 ED186316 | ED 106057 ED 154996 ED 176905 ED 19426 I | ED135694 ED157662 ED176910 ED194440 | ED144794 ED157817 ED178231 ED209061 | ED147581 ED157818 ED179352 | ÉD147582 ED157819 ED179353 | ED147589 ED157820 ED179355 | ED147590 ED175396 ED186315 |
| LEXICOLOGY | (I) | ED202727 | | • | | | | • |
| *LIBERAL ARTS | ' (D) | ED 106 156 | | | , | | | • |
| LIBRARIES | ĊD | ED 179484 | • | | <i>y</i> | • | | |
| *LIBRARY EDUCATION | (1) | ED145845 | | | • | | . , | |
| LIBRARY MATERIALS | (1) | ED063989 | • | 1 | | • | | |
| LIBRARY PLANNING | (1) | ED 145845 | | · . | · | | | , |
| LIBRARY SKILLS | (1) | ED179794 | • | - | | | \ \frac{1}{2}. | ۷ |
| *LIFE STYLE | .(5) ~ | ED121655 | ED121656 | ED173086 | ED198005 | ED200435 | | • |
| LIFE STYLE | (5) 1 | | ED12165'4 | ED125937 | ED151297 | ED183456 | | • |
| *LIGHT | (n) | ED103248 | : | • | , | | | |
| LIGHT | ÷ (1) | ED167409 | - | • | • | | - | • |
| LIGHTING | (1) | ED219269 | ·. | | | | • • | |
| *LIMMOLOGY | (2) | .ED133219 | ED190400 | - | • | · | | |
| LISTENING SKILLS | (2) * . | ED162568 | ED169564 | • | | | 1 | , |
| LITERATURE | (3) | ED099233 | ED290418 | ED212519 | | | • | • |
| *LITERATULE APPRECIATION | · (1) | ED182763 | | <i>:</i> | | • | • | |
| **LITERATURE GUIDES, " | (O) | ED099186 | | • | , | | | |
| LITERATURE REVIEWS | (2) | ED055018 | ED093682 | | | | | - |
| *LITTER EDUCATION PROGRAMS | $\mathbf{Q}_{\mathbf{Q}}$ | ED2 18094 | 7 | (| | | 7 💉 | • • |
| LIVESTOCK | $(\mathbf{\omega}^{r})$ | ED1565.95 | A SACRET | { | | . 100 | • | |
| *LIVING STANDARDS (| ~ (O | ED 147223 | | , , | • | / [| *** | |
| LIVING STANDARDS | * (i) | ED147224 | | | i de la companya de La companya de la co | • | | |
| LOCAL GOVERNMENT | () (D | ED174371 | | | 8 | | | |
| *LOCAL HISTORY | (2) | ED156593 | ED 160203 | | | | | ا المام عملاً المام عملاً ا |
| LOCAL HISTORY | (7) | ED156594 | ED156595 | ED164192 | ED165977 | ED174371 | ED184862 | ED211376 |
| *LOCAL ISSUES | (4) | ED082982 | ED110214 | EDI 13215 | ED113216 | | | |
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| ERIC 263 | A A | | | | | | The same of the | 264 |
| The same of the sa | The state of the second second second second | | | | | | | • |

| LOCAL ISSUES LOCATIONAL SKILLS (SOCIAL STUDIES) | (2) (1) | ED075315 1 ED125931 | ED200435 | | - | ¥ | • | | |
|--|--|--------------------------|---|--|--|--|--|--|-----------|
| LONG RANCE PLANNING | ` (D | ED199116 | | | | | ₹. | | |
| *LOS ANCELES COUNTY OUTDOOR SCHOOL CA | (1) | ED157662 | | • | | • | | | |
| LOUISIANA | (4) | ED051293 | • | | • | | • | | |
| LOW INCOME GROUPS | (1) | ED141427 | | , * | | | | | |
| LUMBER INDUSTRY | (1) | ED085163 | | / · · · · · | | | • | | |
| HACOS | (1) | ED101941 | • | | | ` | | | |
| ≈HAINE | ćρ | ED121565 | • | | •. | | | | |
| HALES . | · (1) | ED 187875 | • | | _ | | - | | |
| ≠HAN A COURSE OF STUDY | (i) * | ÈD 10 19 4 1 | | _ | | | | : | |
| NANACEMENT: | (() | ED098084 | | | | - | | | |
| HANAGEMENT EDUCATION | (1) | ED 15254 I | | | • | | | | |
| *nanacement systems | (2) | ED201422 I | ED201423 | • | | | | | |
| HANACEMENT SYSTEMS | (1) | ED201424 | × 1, | | | , | | | , |
| ZHAN AND ENVIRONMENT | (D) | ED103201 | , | - | • | | | (5) | |
| MAN AND ENVIRONMENT | (1) | ED144826 | , | | | | | 7 | •• |
| *MANUALS | (3) | ED050940 1 | ED059085 | ED071836 | - | | | > | |
| TIANUALS | (D) | ED082978 | · . | | - | ` - ·- | ••• | *** | - 1 |
| #HANUFACTURING | (1)- | ED147224 | 30° | | | | | • | |
| #IMPLE SYRUP | (2) | ED160284 | ED171456 | | | | | • , | |
| *ILABOARC | (1) | ED103236 8 | | | | | | | |
| MAPS | (1) _{&} . | ED133209 | · X / | | • | | , · | | |
| MAPS | (9) ED 17935 I | ED088722 \\ ED210172 \\ | ED125925\ | ED125928 | ED125931 | ED 138538 | ED147222 | ED165974 | ٠, ٠ |
| NAP SKILLS | (4) St. | ED107468 T | ED202719 | ED210172 | ED211374 | | | • | |
| HAP SKILLS | (10) ED202 7 26 | ED202765 I | En087076 ED214838 | ED09 1269 | ED138538 | ED150079 | ED 155069 | ED157817 | ٠ |
| *MARINE BIOLOGY | (46) ED086487 ED141145 ED170153 ED200418 ED206470 | ED174442 I ED200453 I | ed96 1034 Ed986550 Ed1447631 Ed17 9 443 | ED986482 ED986554 ED150783 ED184875 | ED986555 ED164334 ED194302 ED296466 | E0086484 ED086556 ED167393 ED194306 ED206467 ED211376 | ED006485 ED086557 ED167421 ED194325 ED296468 ED211377 | ED086486 ED128163 ED160824 ED198012 ED206469 | |
| MARINE BIOLOGY | (13) ED177015 | ED033653 4 ED198010 1 | ED943591 ED198913 | ED046715 ED211374 | ED 138461 ED211389 | ED130462 ED219234 | ED177012 | ED177013 | د غ در |
| ERIC 265 | The Art | | and the second | | | | | 266 | |

| *MARINE EDUCATION | (12) ** ED211376 | ED167393 ED211377 | ED182763 ED211389 | ED 194325 ED 216906 | ED211358 ED219234 | ED211373. | ED211374 | ED211375 |
|--|---------------------------------------|--------------------------------------|----------------------|------------------------|----------------------|----------------------|-----------------------|-------------------------|
| MARINE EDUCATION | (2) | ED207851 | ED214792 | | , | · | | |
| *MARINE-SCIENCE | CD (| ED 170 153 | | | | | | |
| MARRIAGE" | en . | ED193029 | • | | | | • | |
| *MARYLAUD | ÇD 🐔 | ED150079 | • | | , | ı | | |
| HARYLAND | (2) | ED051011 | ED051012 | | | | <i>/</i> . * | |
| *MASTERS THESES | ക | ED118486 | | | . ' | (| | |
| *HASTERY LEARNING (| क्षेत्र । | ED146084 | • | , | | (| 4 | |
| HASTERY TESTS | "Ray | ED146084 | • | | | | | • |
| NATCH BOXES | (1) | ED034104 | • | • | , , | 7 | | |
| NATERIAL DEVELOPMENT. | (2) | ED174364 | ED206517 | | • | | | • |
| *HATERIALS AND ACTIVITIES FOR TEACHERS AND | (0) | ED034104 | | | | | | |
| PRATHERATICAL APPLICATIONS | (5) | EL 00664 | ÈD100668 | ED100669 | ED100670 | ED167401 | | |
| HATHERATICAL APPLICATIONS | ·(2) | ED085249 | ED165974 | | | | | • |
| NATHENAFIGAL CONCERTS | (2) | ED113148 | ED165974 | | | | | .) |
| *NATHENATICAL ENGICHMENT | ζ(1). | ED212411 | ٠, | | | · | | . {_ |
| NATHENATICAL ENRICHMENT | CD · | ÉED209061 | | _ | • | • • | | |
| *HATHEHATICS | $(\mathbf{O}_{2,1})^{i_{\mathbf{p}}}$ | ED182133 | | | | | ٠, | |
| nathenatics 1 | (27) ED14248B | ED017377 ED142489 | ED089899 ED157666 | ED093673 ED157766 | ED099233 ED157768 | ED099240 ED157818 | ED100644 ED160281 | ED134434 ED160283 |
| | ED160284 ED206470 | ED142407 ED164192 ED207817 | ED167378 ED207818 | ED167374 ED214752 | ED170151 | ED170152 | ED176969 | ED201561 |
| MATHENATICS CURRICULUM | (2) | ED059948 | ED059949 | | | • | | |
| *MATHEMATICS EDUCATION | (6) | ED085249 | ED103236 | ED103252 | ED167401 | ED177014 | ED19 306 1. | |
| NATHENATICS EDUCATION | (33) | FD69 [172 | E0162007 | ED092378 ED165974 | ED092379 ED173072 | ED100664 ED174479 | ED100668 ED175722 | ED100669 ED177013 |
| | ED100670 ED177015 | ED 10 1944 ED 179374 ED 196704 | ED179491 | ED182133 ED196731 | ED182137 ED201523 | ED184817 ED202719 | ED19 1745 ED292726 | ED193930 ED207824 |
| | E0211374 | ED214794 | E0130120 | ED130131 | EDEGIGEG | EDECATIVE TO | | 4 4 |
| *MATHEMATICS INSTRUCTION | Car | ED165974 | ED190030 | ED196704 | | | . / " . " . | |
| MATHEMATICS INSTRUCTION | (5). | ED059926 | ED121466. | ED187629 | ED 193061 | ED 27 19 . | / . 12 h | |
| CHATTERIATICS NATERIALS | ci): | ED179792 | | 1. | | | | |
| HATHERATICS HATERIALS | ∕ (2) | ED165974 | ED212411 | | • | | | |
| HATHEMATICS TEACHERS | (1) | ED193030 | | | | | | ران بازد. چیر دران م |
| ERIC | (2) | EDI 60032 | ED176957 | | | |)26 | Q |
| 267 | | | | | | Jan | | |

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|--|---------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|--|----------------------|
| *Measurement *Neasurement instruments | " (2) (1) | ED141427 ED080361 | ED202719 | | | | • ** | |
| *MEASUREMENT TECHNIQUES | (1) | ED141427 | | | | | | , |
| MEASUREMENT TECHNIQUES | · co · | ED150079 | nga sa | | | | , | . : |
| STECHANICS (PHYSICS) | · CD | E2202727 | | | | , | | |
| MEDICAID | (1) | ED141427 | # | | • | | • | |
| MEDICAL EDUCATION | (1) | ED179484 | | | • | • | • | |
| MEDICARE. | co | ED141427 | | | | | | |
| MENTAL HEALTH | co ' | ED063989 | | _ | | | • • | |
| *HENTALLY HANDICAPPED | (1) | E Q 134434 | · • | ٠ کرځ | | | ************************************** | |
| MENTALLY HANDICAPPED | . (6) | ED07 1264 | ED071265 | ED071266 | ED071267 | ED087188 | ED087189 | |
| *HENTAL RETARDATION | . O | ED180814 | | - | | | | |
| MERCHANDISE INFORMATION | (1) | ED089899 | • | | | | | |
| HETEOROLOGY | (3) | ED093619 | ED 183368 | ED184863 | | | 1835 | • |
| METHOUS | ÇD | ED167312 | | Š | | | | ١, |
| HETRIC SYSTEM | (2) | ED165974 | ED 174364 | | | | |) |
| *METROPOLITAN AREAS | CD . | ED075223 | | | • | | . 19 | h _a · |
| METROPOLITAN AREAS | (4) | ED106054 | ED 106055 | ED107466 | ED107468 | | £ 5,5 | α |
| MIAHI DADE COMMUNITY COLLECE FL | CD | ED144826 | • | | | | å | |
| MIGПIGAN (COLOMA) | ć (i) | ED169256 | | • | · · ·) | | | ٠. |
| ≈Middle eastern studies *** | \mathbf{G} | ED125930 | | , , | مسوم | | | |
| *MIDDLE SCHOOLS | (7) | ED166011 | ED166012 | ED166013 | ED166015 | ED183392 | ED187554 | ED199096 |
| HIDDLE SCHOOLS | (.19) ED1 49985 | ED101944 ED149986 | ED142488 ED149987 | ED142489 ED149988 | ED147589 ED166010 | ED149982 ED166014 | ED149983 ED184862 | ED149984 ED184863 |
| MIGHTON | ED184864 | | | kd 190344 | | • | | • |
| MICRATION | (2) | • | ED171597 | 777014040 | | f = f | | |
| HICRATION PATTERNS | (3) | 1 | ED198018 | _ED214042 | S | · / | | |
| MILWAUKEE PUBLIC SCHOOLS | (1) | ED093599 | DOMESTA | | | | | |
| MINERALS. | (2) | ED100712 | ED218154 | • | | • | | |
| HINICOURSES | (1) | ED194440 | · | 1. 1. 1. 5 | | ا ده | _ | |
| MINHENAST | (1) | ED103235 | PD 4274 | • • | • | , | • | |
| HIRRESOTA | (2) | ED167409 ED183235 | ED 167410 | A | | | , | |
| MINNESOTA MATHEMATICS AND SCIENCE TE | AUHING (1) | ED (#3235) | | | | · · · · | 27 | } |
| EDIC | | | ₽t. | | 9 ' | | • | |

| *MINORITY GROUP CHILDREN MINORITY GROUPS | (B) | ED196577 ED214842 | | • | : | | | |
|---|----------------------------|----------------------|----------------------|----------|--------------------|---|------------|-----------|
| mississippi | (1) | ED175718 | | | | | | |
| MISSOURI | (I) | ED087688 | | , | · | • | | • |
| MOBILE CLASSROOMS | (1) | ED038207 | | • • | • - | | | |
| *MODELS | (2) | ED179412 | ED 18 1656 | | ° 4 | | | , |
| MODELS | (10) ED179411 | ED077723 ED179414 | ED081595 ED180774 | ED091268 | ED1 00777 | ,ED100778 | ED125931 | ED141427 |
| #Monitoring | (D) | ED175723 | • | • : | • | | | |
| *HONTANA | (I) | ED125871 | * 3, 1 | - 1- | | | | |
| HORAL DEVELOPMENT | Œ | ED182118 | | ., | | | | • |
| HOTHERS | (D) | ED214842 | , _ , | • | | 、 | • | . \$ |
| нот он | (D) | ED219281 | • | | | | | |
| HOTIVATION | (1) | ED181417 | | - · | • | • : | | |
| MOTIVATION TECHNIQUES | (1) - | ĖD066298 | | | | | _ | |
| *HOTOR VEHICLES | (2) | `ED147589 | ED147590 | | | | • | |
| . NOTOR VEHICLES | (2) | ED147581 | ED147582 | | | • | • | • |
| NULTICULTURAL EDUCATION | (,2) | ED187629 | E0216369 | | ٠. | .1 | • / | |
| *HULTIDISCIPLINARY ACTIVITIES " | ĊĐ | ED093589 | 11,000 | | | | • | |
| SHULTINEDIA INSTRUCTION , | CD , | ED034104 | **** | s | | - | . ^ | |
| HULTINEDIA INSTRUCTION | (2) | ED079048 | EĎ 125938 | • | | | (| • |
| #MULTNOMAH COUNTY OUTDOOR SCHOOL OR | `(5) | ED175590 | ED132201 | ED175592 | ED175593 | ED175594 | • | · · |
| MUNICIPALITIES | (3) | ED056874 | ED142489 | ED216081 | | , , , , , , , , , , , , , , , , , , , | • | ** |
| - museums | \mathbf{O} | ED106213 | | . ! | • | ĵ | ٠. | |
| NUSIC | (2) | ED099233 | .ED157666 | . 1 | | • | | |
| *NUSIC ACTIVITIES | (D); | ED165972 | .* | | | , | • | |
| MUSIC ACTIVITIES | (3) | ED176910 | ED176914 | ED219286 | | - | . , : | , |
| THUSICAL INSTRUMENTS | (D) | ED165972 | , | 1 | ·, · . | · . ; | 2, | |
| #HUSIC EDUCATION | (4) ₁₂ * | ED100671 | ED100672 | ED100693 | ED100694 | | 4 | |
| BUSIC EDUCATION | (2) | ED059948 | ED177013 | | | * * * | ं ्राज्य । | |
| путновосу | (2) | ED125987 | ED200418 | | <i>3</i> | * | | |
| HATLONAL DEKOGRAPHY | $\mathbf{CD} = \mathbf{C}$ | ED171597 | | | | • | 2' | 72 |
| HATTIONAL DIFFUSION NETWORK | (D) | ED173117 | | | ₹ a ' \$ '' | a-1 | | |
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|--|---|-------------------------|----------------------------------|--|----------------------------------|--|--|--|----------|
| *MATIONAL DIFFUSION NETWORK PROGRAMS NATIONAL DIFFUSION NETWORK PROGRAMS | (1) (3) | ED173115 ED169563 | ED169564 | ED173057 | • | | | | |
| NATIONAL EDUCATION ASSOCIATION | · (1) | ED154996 | | | • | | , | | |
| HATIONAL OCEANOGRAPHIC DATA CENTER | · (1) | ED033853 | | `. | | , | | | |
| *NATIONAL PARKS | (3). | ED156529 | ED156531 | ED156532 | | | Ĭ | | |
| *NATIONAL PROGRAMS | (D), | ED 1797,95 | | | • | | | • | |
| HATTONAL SCIENCE · FOUNDATION | (2) | ED 123 034 | ED216927 | | • | | | | |
| NATIONAL SCIENCE TEACHERS ASSOCIATION | (5) | | | ED1,11663 | ED111664 | ED167401 | | • | |
| ⇒NATURAL RESOURCES | . (92) EB980344 | ED044295 ED081595 | ED049917 | ED058049 | ED063111 | ED068368 | ED069468 | ED070588 | |
| | ED099210 | ED 100639 | KD081607 ED100652 , | ED081608 ED100653 | ED083004 ED100654 | ED092379 ED100655 | ED098096 ED100656 | ED099200 ED100657 | |
| * | ED 100658 ED 107468 | ŘD103219 ED108891 | ED163241 ED111662 | ED104651 ED111663 | ED106055 ED111664 | ED106070 ED133218 | ED106087 ED133219 | ED107466 ED133228 | |
| | ED133230 ED138462 | RD133231 ED141157 | ED136448 ED141 159 | `ED135656 ED146944 | FD137064 | ED137075 ED149986 ED170138 ED179374 | ED137 100 ED149992 | ED133228 ED138461 ED157760 | y |
| * | ED157771 ED174442 ED183416 | ED157818 | ED 162897 | ED162905 ED175724 | ED165991 | ED170138 | ED173082 | ED174407 ED182134 ED193047 | |
| | ED 183416 | KD175593 ED184859 | ED 175594 ED 188008 | ED188919 | ED176960 ED190353 | EDIYOUG | ED179375 ED193031 | ED 193047 | |
| | ED 193048 ED 204 185 | ED 193054 ED 204 186 | KD 194049 EB 205395 | ED195403 ED214752 | ED204105 ED218154 | ED204182 | ED204183 | ED204184 | <i>:</i> |
| NATURAL RESOURCES | (279) | ED024484 | | ED035473 | • | PHAGGGA | FD945375 | ED045380 | ĺ |
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| *NATURAL RESOURCES MANAGEMENT *NATURAL SCIENCES | (1) (7) | ED214752 ED955864 | ED0829 19 | ED099189 | ED162897 | ED176910 | ED184735 | ED186316 |
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| *NATURE CENTERS | (B) ED191749 | ED052926 | ED134408 | ED182113 | ED 182114 | - ED186 156 | ED186246 | ED191747 |
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| NATURE STUDY | . (1) | ED204084 | • . | • | | | 1 | , |
| NATURE TRAILS | (1) | ED134408 | | • | - | | · . / | |
| *NAVIGATION | (5) | ED177014 | ÉD211374 | ED211376 | ED214792 | ED216906 | | |
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| *neichbonhoods | \hat{z}_{i}^{\prime} ($\hat{\mathbf{z}}\hat{\mathbf{j}}_{i}^{\prime}$ ે | ED 193410 | .EB216081 | | | | | ٠, , , , , , , , , , , , , , , , , , , |
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| *NEW JERSEY (NEWARK) | · co | ED216081 | | • . | | | • | |
| *NEW NEXICO | 5 . (1) | ED116947 | , | . ' | - # */ | | | |
| NEWSLETTERS | (1) | ED 164417 | <i>i</i> | • | | * | • | • |
| NEW YORK | ે કૃ (2), ં ે | ED137056 | ED151123 | | | •• | | |
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| *HOISE POLLUTION | (41) | ED092378 | | | | | | • |
| *NO ISE (SOUND) | (8) | ED201598 | ED201509 | ED201510 | 15.74 | | · | |
| NONFORMAL EDUCATION | (4) | ED1757 18 | ED 180794 | ED180826 | ED194349 | | الميار الأيار | |
| HONSCHOOL EDUCATIONAL PROGRAMS | . 🥹 (1) | . ED (9.1749 | | • | | • | 1 | |
| NONTRADITIONAL EDUCATION | (2) | ÊĎ176908 ₂ | ED200381 | | * | • • • • | , | |
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| *NUCLEAR ENERGY | \mathbf{co}^{-z} | ED2 19327 | • | | : | 1. A. C. C. | | - | |
| NUCLEAR ENERGY | (4) | ED699199 | ED099200 | ED200397 | ED211388 | | | -,- | |
| NUCLEAR PHYSICS | (3), * | ED186281 | ED186262 | ED200397 | | | | | |
| NUCLEAR VARFARE | (2) | ED19 1697 | ED191698 | ~ .] , ` | · | 2 | | | |
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| OAK TREES | \mathbf{O}_{i} | ED103243 | - TH | | *** | | | | |
| *OBIS PROGRAM | (5) | ED174364 | ED174365. | ED174366 | ED174367 | ED174368 | | | |
| -*OBJECTIVES | (7) ¹ | ED062176 | ED062180 | ED093673 | ED133140 | ED166809 | ED166010 | ED166011 : | |
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| *OCEANIC EDUCATION ACTIV FOR GREAT LAKES SCHOOLS | (4) | ED179352 | ED179353 | ED179355 | ED179356 | | , | | 7. 7. 79 |
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| *OCEANOCRAPHY | (24) | ED177013 | ED177015 | ED179352 | ED 179353 | ED179355 | ED179356 | ED179443 | |
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| OSEMOORU HI | (13) ED206468 | ED177612 ED21-1375 | ED177014 ED211377 | ED194306 ED214792 | ED216906 | ED202717 ED216927, | Enzac402 | Enzapado | |
| *OGEANULOGY | (33) (∗ − ° | ED033853 | ED043501 | ED045375 | EU046715 | ED061034 | ED061969 | ED061061 | N. |
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| OCEANOLOGY | ED170153 | ED174442 | | | | • | | <u></u> | * |
| OFF CAMPUS FACILITIES | (D) | ED086553 ED176911 | ED157770 | | | | , | /♥ - | N |
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| OHIO SEA CRANT | -\$ (4) | | ED179353 | ED179355 | ED179356 | | • | | ^ . |
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| *OKLAHOMA | (3) 🚑 🦏 | ED153819 | ED153820 | ED205346 | | | | · · · · · · · · · · · · · · · · · · · | |
| OKLAHOMA | <u>(i)</u> | ED187875. | | | , , , , , , , , , , , , , , , , , , , | | | | |
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| ORIENTATION | (2) | ED038223 | ED038224 | 250 | **** | | | | |
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| OUTDOON BIOLOGY INSTRUCTIONAL STRATEGIES | (4) | ED174364 | ED174365 | ED174367 | | | | | |
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| ÷. | ED104639 | -ED104651 - | CD 106687 | ED 106088 | - FD192466 | ED107468 | ED108875 | ED108876 |
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| | (1) (5) (4) (1) (2) (3) (2) (1) | ED176908 ED113256 ED062234 ED079048 ED179484 ED187875 ED149843 ED033784 ED174371 | ED092377 ED197924 ED168725 ED147216 | ED 107649 | | ED193636 | | |
| | (1) (5) (4) (1) (1), (2) (3) (2) | ED176908 ED113256 ED962234 ED979948 ED179484 ED187875 ED149843 ED633784 | ED092377 ED197924 ED168725 ED147216 | ED 107649 | | ED193030 | | |
| | (1) (5) (4) (1) (1) (2) (3) (2) (1) | ED176908 ED113256 ED962234 ED979648 ED179484 ED187875 ED149843 ED933784 ED174371 ED171466 | ED092377 ED197924 ED168725 ED147216 | ED 107649 | | ED193030 | | |
| | (1) (5) (4) (1) (2) (3) (2) (1) | ED176908 ED113256 ED062234 ED079048 ED179484 ED187875 ED149843 ED033784 ED174371 | ED092377 ED197924 ED168725 ED147216 | ED 107649 | | ED193636 | | |
| | (1) (5) (4) (1) (2) (3) (2) (1) (1) | ED176908 ED113256 ED062234 ED079048 ED179484 ED167875 ED149843 ED033784 ED174371 ED171466 ED171466 | ED092377 ED197924 ED168725 ED147216 | ED 107649 | | ED193030 | | |
| | (1) (5) (4) (1) (2) (3) (2) (1) (1) | ED176908 ED113256 ED962234 ED979648 ED179484 ED187875 ED149843 ED933784 ED174371 ED171466 | ED092377 ED197924 ED168725 ED147216 | ED 107649 | | ED 193030 | | |
| | (1) (5) (4) (1) (1) (3) (2) (1) (1) (1) | ED176908 ED113256 ED062234 ED079048 ED179484 ED187875 ED149843 ED033784 ED174371 ED171466 ED187579 | ED092377 ED197924 ED168725 ED147216 | ED 107649 | | ED193636 | | |
| | (1) (5) (4) (1) (1) (3) (2) (1) (1) (1) | ED176908 ED113256 ED062234 ED079048 ED179484 ED187875 ED149843 ED033784 ED174371 ED171466 ED187579 | ED092377 ED197924 ED168725 ED147216 | ED 107649 | | ED [93636 | | |
| | (1) (5) (4) (1) (2) (3) (2) (1) (1) | ED176908 ED113256 ED962234 ED979648 ED179484 ED179484 ED1794875 ED174371 ED171466 ED171466 ED187579 ED187579 | ED192924 ED168725 ED147216 | ED 107649 | | ED19:30:30 | | |
| | (1) (5) (4) (1) (2) (3) (2) (1) (1) (1) (1) | ED176908 ED113256 ED962234 ED979648 ED179484 ED179484 ED1794875 ED174371 ED171466 ED171466 ED187579 ED187579 | ED192924 ED168725 ED147216 | ED 171466 | ED193031 | | | |
| | (1) (5) (4) (1) (1) (3) (2) (1) (1) (1) | ED176908 ED113256 ED062234 ED079048 ED179484 ED187875 ED149843 ED033784 ED174371 ED171466 ED187579 | ED192924 ED168725 ED147216 | ED 107649 | ED193031 | ED193636 | | |
| | (1) (5) (4) (1) (1) (2) (3) (2) (1) (1) (1) | ED176908 ED113256 ED062234 ED079048 ED179484 ED187875 ED149843 ED033784 ED174371 ED171466 ED171466 ED187579 ED187579 | ED192924 ED168725 ED147216 | ED 171466 | ED193031 | | | |
| | (1) (5) (4) (1) (1) (2) (3) (2) (1) (1) (1) | ED176908 ED113256 ED962234 ED979648 ED179484 ED179484 ED1794875 ED174371 ED171466 ED171466 ED187579 ED187579 | ED192924 ED168725 ED147216 | ED 171466 | ED193031 | | | a on |
| | (1) (5) (4) (1) (1) (2) (3) (2) (1) (1) (1) | ED176908 ED113256 ED062234 ED079048 ED179484 ED187875 ED149843 ED033784 ED174371 ED171466 ED171466 ED187579 ED187579 | ED192924 ED168725 ED147216 | ED 171466 | ED193031 | | | 282 |
| | (1) (5) (4) (1) (1) (2) (3) (2) (1) (1) (1) | ED176908 ED113256 ED062234 ED079048 ED179484 ED187875 ED149843 ED033784 ED174371 ED171466 ED171466 ED187579 ED187579 | ED192924 ED168725 ED147216 | ED 171466 | ED193031 | | | 282 |

OUTDOOR EDUCATION

OUTDOOR LEARNING LABORATORY N OUTWARD BOUND

*OVERPOPULATION

OVERPOPULATION

*OXIDATION

PAKISTAN

PARENT ATTITUDES.

PARENT PARTICIPATION

PARENT ROLE

PARENT SCHOOL RELATIONSHIP

PARENT TEACHER ASSOCIATION

PARENT TEACHER COOPERATION

PARK DESIGN

*PARKS

PARKS

*PEACE

| i, | | | - X | | | | , | . • | |
|---------------------------------------|---------------------------------|----------------------|-----------------------|----------------------|----------------|-------------|--|-----------|-------------|
| PEACE PEDESTRIAN TRAFFIC | (1) (2) | ED153923 ED147581 | ED147582 | | - 1 | | . · | . * | ١. |
| *PENNSYLVANIA DEPARTMENT OF EDUCATION | $\mathbf{co} = \mathbf{c}^{-1}$ | ED164283 | | . ′ | . • | | ± | | |
| PERCENTAGE | α | ED167401 | | • • | 1 | | | | |
| *PERCEPTION | (D) | ED059949 | | • | | ē. | 7 | | ' 21 |
| PERCEPTION | (8) ED198989 | ED080348 | ED080349 | ED081602 | ED083117 | ED165970 | ED165972 | ED176908 | |
| *PERCEPTUAL, DEVELOPMENT | (2). | ED080291 | ED169256 | | | | · / | • | |
| PERCEPTUAL DEVELOPMENT | (D) | ED096085 | , | | i i | , | , , , , , , , , , , , , , , , , , , , | · . | , |
| PERCEPTUAL MOTOR COORDINATION | (1) | ED 134434 | • | | | | / . | 423257 | |
| PERCEPTUAL MOTOR LEARNING | (2) | ED 128081 | ED176911 | • | | • | / | | ٠, , |
| PERFORMANCE CRITERIA | (D) | ED 150 079 | | · | | | / | 4 | |
| PERIODICALS & | (4) | ED166016 | |) | , | ** | | | , · · · · . |
| PERSONAL VALUES | do 🐪 | ED151297 | | • • | - | • 5 | J. Janes | | |
| *PERSONNEL | (1) . | ED067202 | , . | | | . * | | | • |
| PERSONNEL | \mathbf{O}^{-1} | ED15 1 123 ' | · . | | -4 - | • | | | 1. |
| PERSONNEL EVALUATION | $\mathbf{O}^{-1/2}$ | ED145845 | Ì | • | | | | 1 | ķ.,- |
| PERSONNEL POLICY | (4) T. | ED024484 | | **** | | | | | سلائي در ما |
| *PESTICIDES | (D) 😽 | ED141158 | , | | | | | | |
| PESTICIDES | (3) | ED 1007 12 | ED179415 | ED219287 | • | | | | • |
| PESTS | \mathbf{o} | ED 106057 | | | , -3 | • | | , . | • |
| PETROLEUM INDUSTRY | (4) | ED 165991 | ED179395 | ED186281 | ED187554 | • | | • | |
| PHILOSOPHY | (2) | ED 125937 | ED157662 | \$. 4 | | ۰,۰ | <i>(</i> | | , |
| *PHOTOCRAPHY | (2) | ED063111 | ED133209 | | | 7 | | • , | • • |
| PHOTOGRAPHY | (2) | ÉD061418 | ED183368 | and both | | · . | | • | |
| PHYSICAL ACTIVITIES | ĊĐ | ED085163 | | | | ٠. | | , , , , | |
| PHYSICAL DESIGN NEEDS | 61) | ED 15 1 123 | | | | ~ , · • | | | _ |
| *PHYS CAL DEVELOPMENT | $\mathbf{o}_{\mathbf{v}}$ | ED085163 | · S · · · | | and the second | 4 · · · · · | *** | | |
| *RUYS ICAL EDUCATION | (3) | ED100695 | ED100696 | ED173057 | | | | | |
| PHYSICAL EDUCATION | (8) ED176911 | ED033812 | ED035473 | ED963989 | ED157666 | ED157768 | ED175722 | ED176910 | |
| *RUYSTCAL ENVIRONMENT | (4) | ED114269 | ED123136 | ED15659% | ED 56595 | . 8 | | | |
| PHYSICAL ENVIRONMENT | Tip. | | -ED130927 ED213582 | ED147222 ED213583 | | ED179443 | -ED209061- | ED209062- | |
| | ED213580 | ED213581 | EDS 13682 | ED213583 | | • • • • | ************************************** | | |
| ERIC 283 | | | | | | | | , 28 | 4 |

| • ••• • | | | • | | | | | , |
|---|--------------------------|--|----------------------|----------------------|-------------------------|---------------------------------------|-----------|---------------|
| *PRYSICAL CEOCRAPHY PHYSICAL GEOGRAPHY | (2) (7) | ED088722 ED100778 | ED103294 ED125931 | ED138538 | ED146084 | ED147222 | ED157817 | ED179448 |
| *PHYSICAL SCIENCES | (6) | ED 100697 | ED184817 | ED 194353 | ED219275 | ED219276 | EB2 19281 | |
| PHYSICAL SCIENCES | (10) ED210172 | ED043501 ED219269 | ED099188 ED219270 | ED 134455 | ED141175 | ED167410 | ED184860 | ED193047 |
| *PHYSICS ' | (4) | ED059901 | ED 100698 | ED127161 | ED202727 | | | • |
| PHYSICS | ED19801 i (13) | ED017377 ED199114 | ED053946 ED200407 | ED101945 ED201508 | ED162886 ED201509 | ED 179395 ED 201510 | ED190346 | ED198068, |
| *PHYS10L0GY | (1) | ED 103238 | | | • | | _ | • |
| PHYTOPLANKTON | (I) | ED086483 | | - | | | | |
| PILOT PROJECTS | (1) | ED2 18094 | | | | | | |
| *PLANNING | (2) | ED125933 | ED19174D | | • | • | | |
| PLANN ING | (12) ED180774 | ED067233 ED184866 | ED121565 ED18886D | ED157666 ED190348 | ED16 0285 ED20 156 1 | ED164417 | ED 175726 | ED 178350 |
| *PLANT CROWTH | (1) | ED103243 | • | • | · · · · · · · | • • | | |
| *PLANT IDENTIFICATION | (2) | ED 103245 | ED175724 | , | | • | • • • | · * . |
| PLANT IDENTIFICATION | (7) 🖟 | ED 160286 | ED165975 | ED165976 | ED173062 | ED174365 | ED209062 | ED216828 |
| *PLANTS | (8) 1 | ED103243 | ED103245 | ED103246 | , ,, | • | • | |
| PLANTS | (1) | ED103244 | • | | • | • | | |
| PLANTS (BOTANY) | (-1) | -ED196731- | | | | · · · · · · · · · · · · · · · · · · · | | |
| *PLANT SCIENCE | (1) | ED103246 | ŧ | • | , | | _ | |
| PLANT SCIENCE | (2) | ED061058 | ED141175 | , | | * | - ->- | |
| PLASTICS | Œ | ED 1863 15 | | | | | | |
| *PLATE TECTONICS | γ (D | ED216927 | | | | | | • |
| *PLAY | (\mathbf{n}) | ED167311 | | , | | , t = | : | |
| *PLAYGROUND ACTIVITIES | (D) | ED209061 | | | | 4 ⁽⁴), , | • | • • |
| PLAYCROUNDS | (D) | ED144332 | • • • | | | Y . | | |
| POETRY | (2) | ED121656 | ED165973 | | | - | | |
| *POLICY | (I) | ED170101. | | , | | | ¥. | |
| POLICY | (8) | •- | ED 157662 | ED160528 | | 5 4 | | |
| =POLICY FORMATION | (2) | **Cash | ED166014 | | | * * - | | 4.00 |
| ROLLCY FORMATION | (2) | | ED167365 | ها أساط أنها الله | | # 1. | · · · · | |
| POLITICAL INFLUENCES | (8) | | ED120068 | | | | | 000 |
| FroLitical issues | (3) | ED11D526 | ED120068 | ED120069 | | e in | | 286 |
| ERČC | . in Table 6 | and the second s | lentene 1.7- | and the mass | | | | |
| The first the property of the contract of the | い かはカンニングからいからとうこうごうじゃん_ | the programme of the second | A SERVICE A TOTAL | | 78 | - | | _ |

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| POLITICAL ISSUES POLITICAL POWER **POLITICAL SCIENCE | (3) | ED059958 ED118526 | ED098100 | ED125930 | | | | | |
|---|--|------------------------------------|--|--|--|--|--|--|-------------|
| ************************************** | (3) | ED118526 | ED120068 | ED120069 | , | | | • | ; • |
| POLITICAL SCIENCE | (3) | ED 0 9 1268 | ED100673 | ED111716 | • . | • | • | | |
| *POLITICS | (1) | ED068339 | | a i | • | | • | | |
| POLITICS | .(1) · | ED120068 | | . •. | | · · · | | : 1. | 1. |
| *POLLUTION | (24) ED 104794 ED 157773 ED 201510 | ED055015 ED107549 . ED173082 | ED055206 ED113148 ED175723 | ED059958 ED120068 ED178835 | ED062234 ED133150 ED188357 | ED081602 ED133225 ED193047 | ED092378 ED137065 ED201508 | ED099234 •ED149964 ED201509 | • |
| POLLUTION | ED099192 ED113215 ED137064 ED147594 ED156486 ED167369 ED175729 ED184863 ED218094 | ED113216 ED138436 ED149965 | ED073032 ED099200 ED120049 ED139671 ED149984 ED157762 ED167402 ED176960 | ED141158 ED150026 EB157765 ED169563 | ED193196 ED125871 ED146084 ED154986 ED157834 ED169564 ED179375 | ED05 10 12 ED0942 12 ED10320 1 ED130927 ED147581 ED157663 ED157835 ED170139 ED180813 ED191698 | ED103213 ED133224 ED147582 ED156483 ED157836 ED174407 ED180832 | ED135648 ED147589 ED156485 ED157837 ED174435 ED183374 | |
| *POLYCHLORINATED BIPHENYLS | · (1) | ED202724 | • | | | 1 | | ** | - |
| POPULATION CONTROL | (D) | ED214842 | · _ | . , . | ~ ? | , , | | · / | : |
| *POPULATION DISTRIBUTION | (2) | ED1 10396 | ED171597 | | | | | , | , |
| POPULATION DISTRIBUTION | (4) | ED046781 | ED075315 | ED128289 | ED215926 | | | | |
| *POLYCHLORINATED BIPHENYLS POPULATION CONTROL *POPULATION DISTRIBUTION POPULATION EDUCATION POPULATION EDUCATION | (50) ED110396 ED120044 ED147216 ED160528 ED193031 ED210182 | ED164417 ED195396 | ED066366 ED113216 ED120046 ED149989# ED176984 ED198017 ED215920 | ED075315 ED113266 ED120048 ED152643 ED179414 ED198018 | ED080349 ED113269 ED120049 ED156479 ED179417 ED199120 | ED098072 ED114254 ED121655 ED156480 ED193028 ED202765 | ED102048 ED110486 ED133214 ED156481 ED193029 ED206517 | ED119963- ED141178 ED156482 ED193030 | is. |
| | ED124451 ED170152 | ED059950 ED125871 ED174407 | ED059958 ED149979 ED199085 | ED083117 EB149986 ED215923 | ED099235, ED156463 | ED103239 ED157683 | ED 106095 ED 157765 | EDI 13214 ED170151 | |
| *POPULATION EDUCATION PROJECT | (1) | ED066366 | ٠, | | | | | · | |
| *POPULATION CROWTH | (14) ED160528 | | | ED075315 ED179414 | ED092377 ED195396 | ED111716 ED214842 | ED12445 1 ED215920 | ED152643 | |
| POPULATION GROWTH | (20) ED120045 ED179416 | ED092437 EB120046 ED183368 | EB098072 | ED110396 ED125930 ED193030 | ED113256 ED133151 ED202765 | ED113269 ED133214 | | ED120044 ED176984 | |
| #POPULATION TRENDS | (12) ED157836 | ED118486 ED157837 | ED120046 ED171597 | ED 133 15 1 ED 195 396 | ED133214 ED210182 | ED141145 | ED157834 | ED157635 | |
| POPULATION TRENDS | (17) ED114254 ED202765 | ED066366 ED120045 ED215920 | ED975315 ED147223 | ED098072 ED156593 | ED 102048 ED 156594 | ED111716. ED156595 | ED113148 ED164417 | ED113269 ED199005 | 28 8 |
| ERIC 7 287 | | | | | | No. | | | |

| PORTLAND PORTLAND PUBLIC SCHOOLS OR | , . | (1) . | ED038222 ED170896 | ED038223 | ED038224 | | ••• | | | |
|--|-------------|--|--|--|----------------------------------|-----------------------------------|----------------------------------|----------------------------------|----------------------------------|------|
| POSITION PAPERS . | ٠. | (1) | ED215939 | • | | | • | | | |
| POSTSECONDARY EDUCATION | | (2) | ED184734 | ED200279 | | | | • | | |
| *POVERTY | • | (1) | ED179415 | | | • | | | | |
| POVERTY PROGRAMS | | (1) | ED141427 | • | | | | | | |
| *POVERTY RESEARCH | | (1) | ED14142? | • | | | , . | | | |
| · POVERTY RESEARCH | | (D) | ED153923 | | * | | • | - | • | • |
| *POWER TECHNOLOGY | • | (3) | ED200397 | ED216907 | ED218160 | , . | • | | ٠ | |
| *PRACMÁTICS | | (1) | ED149594 | · . | , | | | | • | |
| PREDICTION . | • | · (D | ED214841 | • | j • | | | 1 | | • |
| PRESCHOOL CHILDREN | • | (1) | ED168725 | | 1. | | | | | |
| PRESCHOOL EDUCATION. | | (2) | ED111664 | ED198980 | 1 | | .• | : | | 1 |
| *PRES I DENTS | _ | CD | ED157820 | | į. | ٠. | | | • | |
| PRETESTS POSTTESTS | | (1) | ED215920 | • | . / | | | | - | - [- |
| *PRIMARY EDUCATION | | (5) | ED100693 | ED149843 | ED149979 | ED153819 | ED216081 | | • | |
| PRIMARY EDUCATION | • • • • • • | (16) ED103252 > | ED099216 * ED134535 | ED099218 ED144824 | ED100676 ED147581 | ED100686 ED167421 | ED103241 ED204182 | ED103243 ED211358 | ED103246 ED212492 | |
| | , | ED213580 | | | - | -e^ | | | - | |
| *PRIMARY GRADES | 1 | ED 123055 | ED935473 | ED067241 | ED067245 | -ED070680 | ED0792048 | ED080294 | ED119966 | |
| PRIMARY GRADES | 2 | C 13 | ED146044 | - | 1. | | • | | | ļ |
| *PROBLEM SOLVING | | (18) ED113148 ED199092 | ED046826 ED116914 ED199175 | ED055940 ED125931 ED200435 | ED06 I 126 ED I35648 | ED062234 ED149984 | ED080348 ED174436 | ED080349 ED187606 | ED083004 ED196702 | |
| PROBLEM SOLVING | · · | (26) ED085249 ED149991 ED188977 | ED059950 ED087189 ED151297 ED201561 | ED967304 ED166777 ED165991 ED202719 | ED071264 ED103196 ED167373 | .ED071265 ED106095 ED167374 | ED071266 ED113151 ED167401 | ED971267 ED123136 ED173986 | ED073032 ED135649 ED178232 | - |
| *PROCESS EDUCATION | • | άs | ED103235 | | | | A 2" | | | |
| PROCESS EDUCATION | | (2) | ED098084 | ED180811 | | | · · · · · · · | | | |
| PROFESSIONAL ASSOCIATIONS | • | (I) | ED215939 | | ٠ ، ، | | • | 1 1 1 1 K | • | |
| PROFILES OF PROMISE | - | (1) | ED907688 | | | • | | J_{\perp} | • | : |
| *PROCRAM ADMINISTRATION | • | (I) | ED204084 | ·. | | 1 | | * * | | • |
| PROCRAM®BUDGETING | | (1) | ED967202 | . 1 | • | . | .• | - | | |
| *PROGRAM CONTENT | | (4) | ED099188 | ED099189 | ED099191 | ED099192 | | • | | |
| 0 | 7-: | • | | 1 | • | , | | | 000 | |

| PROCRAM CONTENT *PROCRAM DESCRIPTIONS | (3) (13) ED156531 | ED024484 ED055833 ED156532 | ED099190 ED087576 ED157662 | ED196577 ED107471 ED160418 | ED128185 ED167377 | KD135648 ED170135 | ED156529 | ED156530 · |
|--|--|----------------------------------|---|--|--|--|--|--|
| PROCRAM DESCRIPTIONS | (19) ED098 0 96 ED196577 | ED024484 ED099188 ED204138 | ED046826 ED120044 ED216369 | ED059947 ED129535 ED219268 | ED059949 ED176908 | ED059950 ED181656 | ED080291 ED188936 | ED087688 ED196102 |
| *PROCRAM DESIGN | (1) | ED201421 | | | | | | |
| PROGRAM DESIGN \ | (1) | ED200381 | | , | ; | • | | |
| *PROGRAM DEVELOPMENT\ | (17) ED151123 ED213163 | ED024484 ED152498 ED213164 | ED033789 ED152499 | ED066308 ED167317 | ED068337 ED174371 | ED116947 ED176905 | ED118360 ED184734 | ED 133 140 ED 204084 |
| PROGRAM DEVELOPMENT | (7) | ED087576 | ED093621 | ED099214 | ED099215 | ED130820 | ED181656 | ED200481 ` |
| *PROGRAMED INSTRUCTION \ | (4), | ED196702 | | | • | •- | <i>.</i> | , |
| PROCRAM EFFECTIVENESS, | ·C19 . | ED06 1059 · | | | , i . | | | |
| *PROGRAM EVALUATION | (1). | ED167395 | 7. | | | ζ, | | |
| PROCRAM EVALUATION | (5) | ED033788 | ED151123 | ED176909, | ED205346- | ED206517 | | |
| *PROGRAM GUIDES · \ | '(2) | ED033784 | ED151123 | | | | | • |
| PROGRAM GUIDES | (8) ED196726 | ED125888 | ED175590 | ED175591 | ED175592 | ED176998 | ED184734 | ED186 156 |
| *PROGRAM PLANNING | (2) | ED067202 | ED151123 | | | | | • |
| PROGRAM PLANNING , | (3) | ED033788 | ED108874 | ED167317 | | | · ', · | • |
| PROCRAMS | (1) | ED184735 | | • | | | • |) |
| *PROJECT ADVENTURE | (1) · | ED173057 | | • | | | -e, | • |
| PROJECT APEC | (.1) | ED 1991 16 | | | | - | , . | |
| *PROJECT CANADA WEST | (2) | ED055015 | ED055018 | | • | | , | • |
| PROJECT CHANGE | · (1) | ED093589 | | • | | | | • |
| PROJECT COAST | (7) | ED141141 | ED141142 | ED141145 | ED141157 | ED141158 | ED141159 | ED141162 |
| *PROJECT FOR AN ENERGY-ENRICHED CURRICULUM | (2). | ED167401 | ED167402 | • | • | • | • | • |
| SPROJECT P C E | (36) ED 100659 ED 100667 ED 100686 ED 100694 | ED100660 | ``ED100653 ED100661 ED100669 ED10068B ED1 0 0696 | ED100654 ED100662 ED100670 ED100689 ED100697 | ED100655 ED100663 ED100671 ED100690 ED100698 | ED100656 ED100664 ED100672 ED100691 | ED100657 ED100665 ED100673 ED100692 | ED100658 ED100666 ED100674 ED100693 |
| *PROJECT LCE | (4) | /ED169563 | ED169564 | ED173115 | ED173,117 | . ' | ٠, ٠, | • • |
| PROJECT KARE | (3) | ED157681 | ED157682 | ED157683 | | | | |
| PROJECT LEARNING TREE | (a) | ED182144 | | . | - " | • | | |
| PROJECT, MER | (6) | ED086482 | ED086483 | ED086484 | ED086485 | ED086486 | ED086487 | |
| ERIC 291 | | • | | | 12 | · • |) | 292 |

| ₩BD0 IECT DAWGOD | | 445 | | A | | , | Ą. | • | |
|---|---------|---------------------------|--|--|----------------------|----------------------|------------------|-----------------------|---------------------------------------|
| *PROJECT RANGER *PROJECTS | | $^{\circ}$ | ED170896 ED055833 | | ,•, | | | | • |
| PROJECTS | | à | ED055015 | | | | · ·, | ٧. | |
| #PROJECT SAVE | | (1) | ED135648 | - 23 | • | • | | | , |
| PROJECT SPRUCE | • | CD. | ED035540 | | , | | | | |
| PROPORTION - | | CD , | ED100668 | | | • | | | , 6 |
| PROXINITY | | (1) | ED167312 | | | | | | |
| *PSYCHOLOGY | | (1) | ED188977 | . ~ | | | • | 1 | • |
| PSYCHOLOGY | | (1) | ED100673 | 1 | • | | | | |
| PUBLIC AFFAIRS EDUCATION | ļ | (1) | ED051012 | | | | | ` | • |
| · PUBLICATIONS | | co · | ED176984 | | • | • | • | | |
| *PUBLIC HEALTH | . ' | (3) | ED202724 | ED212458 | ED212459_ | | | | |
| PUBLIC HEALTH | | (5) | ED106057 | ED194697 | ED191698 | ED212460 | ED212461 | • | • |
| PUBLIC HOUSING | | (1) | ED141427 | | • | • | `, | | • |
| PUBLICIZE , | | (1) | ED158930 | | • | | ٠, | • | |
| *PUBLIC LIBRARIES | | CD, | ED145845 | ************************************** | , | | , -, | | • • |
| PUBLIC OPINION | | $\mathbf{O} = k$ | ED134526 | | • | | | | |
| _*PUBLIC POLICY | • | (4) | ED184866 | · ED188936 | ED191697 | ED191698 | | | · · |
| PUBLIC POLICY | , | (12) ED19 0346 | ED118526 ED190348 | ED174484 ED199353 | ED175726 ED191743 | ED183368 ED191745 | ED187555 | ED 188860 | ED190344 |
| PUBLIC SCHOOLS. · · | | \mathbf{co} | ED171466 | 1 - | | | | | |
| PUBLIC SPEAKING | • | (1) | ED017377 | | • | • • | | - | |
| QUALITY CONTROL | | (3) | ED068337 | ED079100 | ED086482 | | | , • | |
| QUALITY OF LIFE | | (5) | ED195544 | ED199115 | ED200435 | ED214838 | ED215921 | • | , 4 |
| *QUESTIONING TECHNIQUES | | (1) | ED211361 | _ | | | | • | - , |
| QUESTIONING TECHNIQUES | • | | | ` | • | • | | | - |
| | .* | (3) | ED098098 | ED098100 | ED102048 | · . | <u> *-</u> | <u>, </u> | |
| *QUESTIONNAIRES | ··· | | | ED098100 | ED102048 | • . | <u>*</u> | <u></u> - | <u>-</u> |
| 1 ' ' ' | ·• • | | ED098098 ED125865 | ED098100 | ED102048 | • | <u></u> <u>*</u> | <u> </u> | |
| *QUESTIONNAIRES | ·• | (-1-) | ED098098 ED125865 | ED151123 | | ED062234 | ED986522 | ED 0 92358 | |
| *QUESTIONNAIRES QUESTIONNAIRES | ·• | (2) | ED098098 ED125865 ED147216 | ED151123 | | ED062234 | ED#86522 | ED092358 | |
| \$QUESTIONNAIRES QUESTIONNAIRES #QUINNESTER PROGRAM | · , | (2) (6) | ED098098 ED125865 ED147216 ED059958 | ED151123 ED061126 | | ED062234 ED099189 | | | ED099192 |
| *QUESTIONNAIRES QUESTIONNAIRES *QUINNESTER PROGRAM QUINNESTER PROGRAM | | (2) (6) (1) | ED098098 ED125865 ED147216 ED059958 ED062180 | ED151123 ED061126 | ED062176* | | | | ED 0 99192 |
| *QUESTIONNAIRES QUESTIONNAIRES *QUINNESTER PROGRAM QUINNESTER PROGRAM *RACHEL CARSON PROJECT | | (2) (6) (1) | ED098098 ED125865 ED147216 ED059958 ED062180 ED099186 | ED151123 ED061126 | ED062176* | | | | • • • • • • • • • • • • • • • • • • • |
| #QUESTIONNAIRES QUESTIONNAIRES #QUINNESTER PROGRAM QUINNESTER PROGRAM #RACHEL CARSON PROJECT RACIAL DISCRIMINATION | | (2) (6) (1) (7) | ED098098 ED125865 ED147216 ED059958 ED062180 ED099186 ED202940 | ED151123 ED061126 ED099187 | ED062176* | | | | ED099192 |

| • | | | | | | | | · · · · · · · · · · · · · · · · · · · | • |
|---|----------------------------|-----------|--------------|------------|-----------|-----------|------------------|---------------------------------------|----|
| | | • | ! " | • | | | | , — | |
| RADIATION RATIOS (MATHEMATICS) | (1) (1) | ED219287 | • | • | • | | . • | | |
| *RATS | (1) | ED106057 | • , • | . 🗡 | | • | • | | • |
| RATS | an ' | ED179415 | - | * • | ` | | •• | • | |
| *READING | Ω. | ED 133144 | | | • | | | | - |
| READING | (2) | ED141141 | ED182136 | | • | | • | | |
| ≉READING GAMES | ·(D) | ^ED181417 | . • | - | | • | | | |
| READING GAMES | : (a) | ED193053 | • | | | | K -1 | • ••• | |
| READING IMPROVEMENT | (1) ~ | ED106213 | , | | ; | ٥ | ₹ . | • | • |
| *READING INSTRUCTION | (3) | ED181417 | ED193053 | ED215923 | • | , | • | _ | |
| *READING MATERIALS | (4) | ED181417 | ED197996 | EĎ197997 | ED197998 | | • | 16 | |
| READING MATERIALS | (3) | ED061061 | ED111663 | ED160528 | , | _ | • | | |
| READING SKILLS | (7) | ED158392 | ED158303 | ED169563 | ED169564 | ED193053 | ED1967 04 | ED206468 | |
| RECORDKEEP ING | (1) | ED167317 | 1.0 | , | • | | • | ` | |
| RECORDS (FORMS). | (5) | ED024484 | ED129535 | ED167317 | ED190362 | ED 190363 | • | | |
| *RECREATION \ | (2) | ED141141 | ED158906 | • | | _ | | | |
| RECREATION | (5) | ED024484 | ED108874 | ED108876 | ED213163 | ÆD213 f64 | ٠, . | | - |
| *RECREATIONAL ACTIVITIES | · (4) | ED085163 | ED097211 | ED1673 Î.1 | ED178232 | | | | |
| RECREATIONAL ACTIVITIES | . (6) • | ED087576 | ED116910 | ED184735 . | ED205346 | ED206420 | ED206421 | • | |
| RECREATIONAL FACILITIES | (3) | ED187579 | ED204105 | ED205346 | | ` | | · . | |
| *RECREATIONAL PROGRAMS | CD (| ED195544 | | | | • | | ě | |
| RECREATIONAL PROGRAMS | (4) | ED097211 | ED175591 | ED183297 | ED184734 | | | • • • • | • |
| *RECYCLING | (5) | ED059947 | ED159075 | ED175729 | ED188919 | ED191749 | | | |
| RECYCLING | (8) ED198 00 | ED073032 | ED098096 | ED 171466 | ED 175728 | ED180826 | ED184864 | ED188008 | , |
| _*Redwood_glen_resident_outdoor-school- | | ED129535 | _ | | · · | | | | |
| #REFERENCE MATERIALS . | , cio | ED125852 | 4 1 | • | | | • | | |
| REFERENCE MATERIALS | . (4) | ED114269 | ED147 188 | ED167454 | ED170141 | | * | , | ٠. |
| *REGIONAL PLANNING | (4) | ED161754 | ED174484 · | ED180774 | ED191748 | . * | | • | |
| REGIONAL PLANNING | (3) | ED045350 | ED184861 | ED184866 | | | ص ک | | |
| RELATIONSHIP | (5) | ED134535 | ED134536 | ED134537 | ED134538 | ED155069 | | , | |
| *RELEVANCE (EBUCATION) | (D) | ED171466 | • | | , | \ | ,` | 200 | |
| RELEVANCE (EBUCATION) | (3)/ → , | ED066298 | ED174371 | ED200279 | | | • | . 296 | |
| ERIC • 295 | ٠. | 1 3 | | , _ | • | | · . | • | |

| | | | | • | . , | <u> </u> | | | _ | 1 | | |
|-------------------------|--------|--------------|----|--|--|--|--|--|--|--|--|----------|
| RELIGION DISCRIMINATION | • | 1 | | (2) (1) | ED125937 ED202940 | ED188977 | • | | • | ') | | : |
| *REMOTE SENSING | - - | • | | (D) | ED170141 | | | | | ٠. | • | |
| REPORTS | ٦ . | | | (3) | ED061118 | ÉD070635 | ED107471 | • • | | • | | |
| REPRODUCTION (BIOLOGY) | | | • | 'CD | ED219287 | | | | 1 . | • | | |
| RESEARCH METHODOLOGY | , | • | • | ·(2) | ED180757 | ED2065 17- | · · · · · · · · · · · · · · · · · · · | | | | • 🔆 | • |
| RESEARCH PROJECTS | • | | | (1) | ED180757 | - | • | • | | | | |
| RESEARCH UTILIZATION | | | | (D) | ED215939 | | • | | ٠ حو ر | • | ષ | |
| *RESIDENT CAMP PROGRAMS | | , | Ťí | (13) ED151123 | ED033784 ED175590 | ED033788 ED175591 | ED038222 EB175592 | ED038223 ED1769 10 | ED038224, ED184734 | ED067202 | ED071836 | |
| RESIDENT CAMP PROGRAMS | | . • | _ | (3) | ED173062 | ED178232 | ED196577 | 1 | | • | | |
| *RESIDENTIAL PROGRAMS | | • | 7 | (2) | ED129535 | ED201421 | `,' . | , at | • | · - ** | - | |
| RESIDENTIAL PROGRAMS | | , | , | $^{\circ}$ CD | ED157662 | • | , | ۲ | _ | 1 | | |
| RESIDENT STUDENTS | - 1 | , , | ٠. | (D | ED033774 | , `` | سر | • | | .) / | | |
| RESOURCE ALLOCATIONS | , | • • | | (3) | ED 162883 | ED167373 | ED167374 | |) - | | . ' | |
| *RESOURCE CENTERS | | ų·'. | • | (3) | ED201422 | ED201423 | ED201424 | | • | ` | | |
| RESOURCE CENTERS | | | | (2) | ED118360 - | ED191748 | : 🚗 | | | | * | |
| *RESOURCE GUIDES | • | , | \ | (-11) ED156473 | ED981698 ED164334 | ED107480 ED166016 | ED125883 ED170141 | ED125888 | ED141953 | ED142481 | ED156463 | |
| RESOURCE GUIDES | 1 | | | (20) ED062234 ED128081 | ED033812 ED066407 ED150079 | ED033853 ED075315 ED152643 | ED035473 ED086300 ED16052B | ED035540 ED089993 ED165988 | ED059950 ED091266 | ED059958 ED091269 | ED061126 ED111663 | v. |
| *RESOURCE MATERIALS | | | • | (36) ED092390 ED160284 ED162134 ED193063 | ED042607 ED092391 ED160285 ED182135 ED194349 | ED049917 ED121569 ED160286 ED182136 ED195096 | ED063989 ED147188 ED176984 ED190399 ED202729 | ED09 1172 ED157680 ED178335 ED193058 ED204105 | ED092376 ED160281 ED18213 I ED193059 | ED092388 ED160282 ED182132 ED193061 | ED092389 ED160203 ED182133 ED193062 | |
| RESOURCE MATERIALS | | • | | (85) ED055833 ED086484 ED092395 ED114269 ED136821 ED146044 ED149980 | ED033844 ED061034 ED066485 ED094912 ED116981 ED110822 ED146048 ED149981 | ED93362 EB963111 ED986486 ED996985 ED13326 ED133267 ED147581 ED149982 | ED034104 ED065309 ED086487 ED098096 ED120054 ED134526 ED147582 ED149987 | ED043501 EB068348 EB086499 ED098098 ED123136 ED137056 ED147549 ED149993 | ED045436 ED069468 ED085555 ED098100 ED125852 ED137140 ED147590 ED151123 | ED045437 ED086482 ED088722 ED113216 ED125883 ED144781 ED148581 ED157682 | ED046715 ED006483 ED092374 ED114268 ED130820 ED144787 ED149979 ED159106 | |
| | | • | | ED161754 ED195403 ED204184 | ED167312 ED196786 ED204185 | ED178202 ED199115 ED204186 | ED183297 ED200453 ED213519 | ED187485 ED202765 | ED193054 ED204138 ED218154 | ED193055 ED204182 | ED193060 · ED204183 | , |
| RESOURCES | | , | | (2) | ED067202 | ED144824 | Pp.46.45.4 | , | 11 | 1 | | |
| *RESOURCE UNITS | | • | | (4) | ED067304 | ED068339 | ED194264 | ED205346 | | : | | |
| nesource units | | <i>§</i> . | | (9) ED19304B | ED0#2978 ED216906 | ED082982 | ED092374 | 10092376 | ED104639 | ED120044 | ED193047 | |
| EPIC 297 | | • | · | | 1.4 | | | ν, | <i>i</i> | , | ~ ^ ^ | _ |

| **RESPONS IDILITY** (1) | | , 🧇 | | | | • • • • • | • | /. | ,, |
|--|--|-----------------------|----------------------|--|----------------|---------------------------------------|---------------------------------------|--|--|
| RÉTENTION (PSYCHOLOGY) | *RESOURCÉ UTILIZATION *RESPONSIBILITY | | ED141157 ED158301 | ED158302 | ED158303 | ED170101 | ' ' | , , | |
| ### STUDIE ISLAND #################################### | RETARDED CHILDREN | ζŒ | ED138527 | | , | • | | ** | |
| #RIVER RAFTING (1) ED187787 (1) ED187787 (1) ED187787 (1) ED187787 (1) ED187485 ROULE PLAYING (1) ED187485 ROUND READON OUTDOOR LEARNING LABORATORY (1) ED196877 SCHOOL, ND RURAL DEVEROPMENT (1) ED212411 RURAL ENVIRONMENT (1) ED188538 ED195544 SAFETY EDUCATION (2) ED188538 ED1976101 ED178232 ED201421 ED204084 **SAFETY EDUCATION (2) ED147581 ED147582 **SAFETY EDUCATION (3) ED147689 ED147589 ED187666 ED188996 ED189297 **SAMPLING (4) ED183247 SAN FRANCISCO SAN FRANCISCO SAN FRANCISCO 641 SAN FRANCISCO 641 SAN FRANCISCO 651 SAN FRANCISCO 661 SAN FRANCISCO 661 SAN FRANCISCO 661 SAN FRANCISCO 671 SAN FRANCISCO 684 (6) ED066482 ED066463 ED086494 ED066485 ED086487 SANIFATION (2) ED183281 SCHOOL ACTIVITIES (1) ED187629 SCHOOL COMMUNITY RELATIONSHIP (1) ED087688 SCHOOL COMMUNITY RELATIONSHIP (1) ED087688 SCHOOL COMMUNITY RELATIONSHIP (1) ED087688 SCHOOL LOCATION (2) ED106684 ED182499 SCHOOL LOCATION (2) ED106788 ED125499 SCHOOL LOCATION (2) ED106688 ED182499 SCHOOL LOCATION (2) ED106688 ED152499 SCHOOL LOCATION (3) ED106688 ED152499 SCHOOL LOCATION (3) ED106688 ED152499 SCHOOL LOCATION | RETENTION (PSYCHOLOGY) | (1) | E0216828 | • | | | | • | |
| #ROLE PLAYING (1) ED187737 ROLE PLAYING (7) ED082982 ED093748 #B103219 ED11716 ED125925 ED125933 ED183456 ROURD PROBABON OUTDOOR LEARNING LABORATORY (1) ED16577 SCHOOL MD RURAL DEVEROPHENT (1) ED212411 RURAL ENVIRONMENT (1) ED051011 RURAL URBAN DIFFERENCES (2) ED188938 ED195544 **SAFETY EDUCATION (2) ED147581 ED147582 SAFETY EDUCATION (5) ED147589 ED177010 ED178232 ED201421 ED204084 **SAFETY EDUCATION (6) ED147589 ED157666 ED158906 ED189297 SAFETY EDUCATION (1) ED18321 SAN FRANCISCO (1) ED16325 SCHOOL ACTIVITIES (1) ED167679 SCHOOL ACTIVITIES (1) ED167679 SCHOOL ACTIVITY PROGRAMS (2) ED069407 SCHOOL COMMUNITY RELATIONSHIP (1) ED067688 SCHOOL LOCATION (2) ED16664 ED152499 SCHOOL LOCATION (2) ED166664 ED152499 | *RHODE ISLAND | (4) | ED137063 | ĘD138461 | ED138462 | ED156473 | | | |
| ROLE PLAYING | ≠RIVER RAFTING | ് ശ് 🌁 🗆 | ED170101 | ÿ | | | | + | • |
| | *ROLE, PLAYING (| ÇD · | ED157757 | • | • | • '' | , · | • | , 7≸ ⊶ |
| ROUND MEADOW OUTDOOR LEARNING LABORATORY Color C | ROLE PLAYING | | ED082982 | ED093743 | E0103219 | ED111716 | ED125925 | ED125933 | ED 183456 |
| ROUND NEADOW OUTDOOR LEARNING LABORATORY 11 | ROPE COURSES | $z \in \mathbf{co}$. | ED 187485 | • (- | ¥. | , | ٠. | • | • |
| RURAL ENVIRONMENT RURAL URBAN DIFFERENCES SAFETY (5) ED15838 ED195544 **SAFETY EDUCATION (2) ED147581 ED147582 ED201421 ED204084 **SAFETY EDUCATION (5) ED157899 ED147582 ED157566 ED158996 ED183297 **SAMPLING SAMPLING (1) ED179416 SAN FRANCISCO SAN FRANCISCO SAN FRANCISCO (1) ED18321 SAN FRANCISCO BAY (6) ED086482 ED086403 ED086484 ED086485 ED086486 ED086487 SANTATION (2) ED164123 ED170101 SAPA **SASKATCHEWAN SCHEOUL INC **SCHOOL ACTIVITIES SCHOOL ACTIVITIES (1) ED187579 SCHOOL COMMUNITY RELATIONSHIP SCHOOL COMMUNITY RELATIONSHIP SCHOOL COMMUNITY RELATIONSHIP SCHOOL COMMUNITY RELATIONSHIP SCHOOL INDUSTRY RELATIONSHIP SCHOOL LOCATION (2) ED162454 ED092218 ED162654 ED152499 SCHOOL LOCATION (2) ED162655 ED152499 ED152498 ED219266 | ROUND MEADOW OUTDOOR LEARNING LABORATORY SCHOOL MD | | ED196577 | т Б 3 | * F | • | <u>.</u> | | % . |
| RURAL URBAN DIFFERENCES (2) ED138538 ED19544 SAFETY (5) ED158930 ED170101 ED178232 ED201421 ED204084 SAFETY EDUCATION (2) ED147581 ED147582 ED157666 ED158906 ED183297 SAFETY EDUCATION (5) ED147589 ED147590 ED157666 ED158906 ED183297 SAFELING (1) ED179416 SAN FRANCISCO (1) ED183321 SAN FRANCISCO (1) ED183321 SAN FRANCISCO (6) ED086482 ED086403 ED086484 ED086485 ED086487 SANTATION (2) ED15123 ED170101 SAFA (2) ED15123 ED170101 SAFA (2) ED187639 ED123065 SCHOOL ACTIVITIES (1) ED187579 SCHOOL ACTIVITIES (1) ED187629 SCHOOL COMMUNITY RELATIONSHIP (1) ED087688 SCHOOL COMMUNITY RELATIONSHIP (1) ED087688 SCHOOL COMMUNITY RELATIONSHIP (1) ED087688 SCHOOL LOCATION (2) ED099218 SCHOOL LOCATION (2) ED16664 ED152499 SCHOOL LOCATION (3) ED081698 ED152499 ED219266 | RURAL DEVELOPMENT | CD | ED212411 | • | | , | | | |
| SAFETY (5) | RURAL ENVIRONMENT | · (t) | ED051011 | . ــــــــــــــــــــــــــــــــــــ | | | † • | 4 | |
| **SAFETY EDUCATION (2) ED147581 ED147582 SAFETY EDUCATION (5) ED)47589 ED157666 ED158906 ED183297 **SAMPLING (2) ED103252 SAN FRANCISCO (1) ED18321 SAN FRANCISCO BAY (6) ED086482 ED086483 ED086484 ED086485 ED086487 SANITATION (2) ED157123 ED170101 SAPA (2) ED167235 ED123055 **SASKATCHEWAN (1) ED1836820 **SCHOOL ACTIVITIES (1) ED187579 SCHOOL ACTIVITY PROGRAMS (2) ED087688 SCHOOL COMMUNITY PROGRAMS (2) ED087688 SCHOOL COMMUNITY RELATIONSHIP (1) ED087688 SCHOOL COMMUNITY RELATIONSHIP (1) ED087688 SCHOOL LOCATION (2) ED152499 ED152499 ED219286 | RURAL URBAN DIFFERENCES | (/ - (2) | ED138538 | ED195544 | _ | • | .*/ | 100 | • |
| SAFETY EDUCATION (5) | SAFETY | (5) | ED158930 | ED170101 | ED 178232 | ED201421 | ED204084 | • . | |
| **SAMPLING (2) ED103247 ED103252 SAMPLING (1) ED179416 SAN FRANCISCO (1) ED18321 SAN FRANCISCO BAY (6) ED066482 ED066483 ED086484 ED066485 ED086487 SANITATION (2) ED15123 ED170101 SAPA (2) 'ED103235 ED123055 **SASKATCHEWAN (1) ED130820 SCHEDULING (2) ED024484 ED071836 **SCHOOL ACTIVITIES (1) ED187579 SCHOOL ADMINISTRATION (1) ED187629 SCHOOL COMMUNITY PROGRAMS (2) ED087688 SCHOOL COMMUNITY RELATIONSHIP (1) ED087688 SCHOOL COMMUNITY RELATIONSHIP (3) ED100778 ED174371 ED193410 SCHOOL LOCATION (2) ED06664 ED152499 **SCHOOL LOCATION (3) ED06664 ED152499 **SCHOOL LOCATION (3) ED06668 ED152498 ED219286 | *SAFETY EDUCATION | (2) | ED147581 | ED147582 | , | May in | | ٠. | |
| SANFLING (1) ED179416 SAN FRANCISCO (1) ED183321 SAN FRANCISCO BAY (6) ED086482 ED086483 ED086485 ED086485 ED086487 SANTATION (2) ED151123 ED170101 SAPA (2) ED18325 ED123055 **SASKATCHEWAN (1) ED130820 **SCHIOOL ACTIVITIES (1) ED187579 SCHOOL ADMINISTRATION (1) ED187629 SCHOOL COMMUNITY PROGRAMS (2) ED087688 SCHOOL COMMUNITY RELATIONSHIP (1) ED087688 SCHOOL COMMUNITY RELATIONSHIP (1) ED099213 SCHOOL LOCATION (2) ED166054 ED152498 ED219286 SCHOOL LOCATION (3) ED081608 ED152498 ED219286 | SAFETY EDUCATION | / (5) | ED) 47589 | ED147590 | ED157666 | ED158906 | ED183297 | <u>. •</u> | <u> </u> |
| SAN FRANCISCO SAN FRANCISCO BAY (6) ED086482 ED086483 ED086484 ED086485 ED086487 SANTATION (2) ED154123 ED170101 SAPA *SASKATCHEWAN (1) ED130820 *SCHIEDULING SCHOOL ACTIVITIES (1) ED187579 SCHOOL COMMUNITY PROGRAMS (2) ED09947 ED197924 *SCHOOL COMMUNITY RELATIONSHIP SCHOOL COMMUNITY RELATIONSHIP SCHOOL COMMUNITY RELATIONSHIP SCHOOL LOCATION (2) ED099213 *SCHOOL LOCATION (3) ED081688 ED152498 ED219286 | *SAMPLING | ٠(2) | ED103247 | ED 103252 | | | | د . | |
| SAN FRANCISCO BAY (6) ED086482 ED086483 ED086484 ED086485 ED086486 ED086487 SANITATION (2) ED154123 ED170101 SAPA (3) ED103235 ED123055 **SASKATCHEWAN (1) ED130820 SCHEDULING (2) ED024484 ED971836 **SCHOOL ACTIVITIES (1) ED187579 SCHOOL COMMUNITY PROGRAMS (2) ED039947 ED197924 **SCHOOL COMMUNITY RELATIONSHIP (1) ED087688 SCHOOL COMMUNITY RELATIONSHIP (3) ED100778 ED174371 ED193410 **SCHOOL LOCATION (2) ED099213 **SCHOOL LOCATION (3) ED081608 ED152499 CONCOL LOCATION (3) ED081608 ED152498 ED219286 | SAMPLING \mathred{mathred} | (1) | ED179416 | • | | • | , | - 2 | • • • • • • |
| SAPA SAPA (2) ED15#123 ED170101 SAPA (2) ED103235 ED123055 *SASKATCHEWAN (1) ED130820 SCHOOL ACTIVITIES (1) ED187579 SCHOOL ADMINISTRATION (1) ED187629 SCHOOL COMMUNITY PROCRAMS (2) ED039947 ED197924 *SCHOOL COMMUNITY RELATIONSHIP (1) ED087688 SCHOOL COMMUNITY RELATIONSHIP (3) ED100778 ED174371 ED193410 SCHOOL HUBUSTRY RELATIONSHIP (1) ED099213 *SCHOOL LOCATION (2) ED106054 ED152499 *SCHOOL LOCATION (3) ED081608 ED152498 ED219286 | SAN FRANCISCO | co. ~ | ED183321 | ` | * · .s (| \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | · , | | ili de la compansión de |
| \$APA \$\psi_{SASKATCHEWAN}\$ \$\psi_{SCHOOL ACTIVITIES}\$ \$\psi_{SCHOOL ADMINISTRATION}\$ \$\psi_{SCHOOL ADMINISTRATION}\$ \$\psi_{SCHOOL COMMUNITY PROCRAMS}\$ \$\psi_{SCHOOL COMMUNITY RELATIONSHIP}\$ \$\psi_{SC | SAN FRANCISCO BAY. | (6) | ED086482 | ED086483 | ED086484 | ED086485 | ED086486 | ED086487 | |
| **SASKATCHEWAN (1) ED130820 SCHEDULING (2) ED024484 ED071836 **SCHOOL ACTIVITIES (1) ED187579 SCHOOL ADMINISTRATION (1) ED187629 SCHOOL COMMUNITY PROCRAMS (2) ED059947 ED197924 **SCHOOL COMMUNITY RELATIONSHIP (1) ED087688 SCHOOL COMMUNITY RELATIONSHIP (3) EB100778 ED174371 ED193410 SCHOOL INDUSTRY RELATIONSHIP (1) ED099213 **SCHOOL LOCATION (2) ED166054 ED152499 SCHOOL LOCATION (3) ED081608 ED152498 ED219286 | SANITATION | (2) | ED15#123 | · ED170101 | • | - (| | 4 | |
| SCHEDULING (2) ED024484 ED071836 SCHOOL ACTIVITIES (1) ED187579 SCHOOL ADMINISTRATION (1) ED187629 SCHOOL COMMUNITY PROCRAMS (2) ED059947 ED197924 SCHOOL COMMUNITY RELATIONSHIP (1) ED087688 SCHOOL COMMUNITY RELATIONSHIP (3) ED100778 ED174371 ED193410 SCHOOL INDUSTRY RELATIONSHIP (1) ED099213 SCHOOL LOCATION (2) ED106054 ED152498 ED219286 SCHOOL LOCATION (3) ED081608 ED152498 ED219286 | SAPA | (32) | · ED103235 | ED123055 | • • • | , | ٠. | | +814 |
| **SCHOOL ACTIVITIES (1) ED187579 SCHOOL ADMINISTRATION (1) ED187629 SCHOOL COMMUNITY PROGRAMS (2) ED059947 ED197924 **SCHOOL COMMUNITY RELATIONSHIP (1) ED087688 SCHOOL COMMUNITY RELATIONSHIP (3) ED100778 ED174371 ED193410 SCHOOL INDUSTRY RELATIONSHIP (1) ED099213 **SCHOOL LOCATION (2) ED106054 ED152499 SCHOOL LOCATION (3) ED081608 ED152498 ED219286 | *SASKATCHEWAN . | (1) | ED130820 | * * * * | , | • | | , ' \ | |
| SCHOOL ADMINISTRATION (1) ED187629 SCHOOL COMMUNITY PROGRAMS (2) ED059947 ED197924 **SCHOOL COMMUNITY RELATIONSHIP (1) EU087688 SCHOOL COMMUNITY RELATIONSHIP (3) EU100778 ED174371 ED193410 SCHOOL LOCATION (1) ED099213 **SCHOOL LOCATION (2) ED166054 ED152499 **SCHOOL LOCATION (3) ED081608 ED152498 ED219286 | SCHEDULING 1 | .(2) | ED024484 | ED97 1836 | . ' | | 1. | | |
| SCHOOL COMMUNITY PROGRAMS **SCHOOL COMMUNITY RELATIONSHIP SCHOOL COMMUNITY RELATIONSHIP SCHOOL INDUSTRY RELATIONSHIP **SCHOOL LOCATION (2) ED059947 ED197924 (1) ED087688 (2) ED087688 (3) ED190778 ED174371 ED193410 **SCHOOL LOCATION (4) ED099213 **SCHOOL LOCATION (5) ED166054 ED152499 CONCOL LOCATION (6) ED081608 ED152498 ED219286 | *SCHOOL ACTIVITIES | (1) | `ED187579 | • | • | 13 4 | | • • , | • |
| #SCHOOL COMMUNITY RELATIONSHIP SCHOOL COMMUNITY RELATIONSHIP (1) ED087688 SCHOOL INDUSTRY RELATIONSHIP (2) ED099213 #SCHOOL LOCATION (3) ED06054 ED152498 ED081608 ED152498 ED219286 | SCHOOL ADMINISTRATION · | . CD | ED187629 | ٠.* | | · · · · · | . / 50 m. | • | |
| SCHOOL COMMUNITY RELATIONSHIP (3) EB100778 ED174371 ED193410 SCHOOL INDUSTRY RELATIONSHIP (1) EB099213 **SCHOOL LOCATION (2) ED106054 ED152499 (3) ED081608 ED152498 ED219286 | SCHOOL COMMUNITY PROCRAMS | (2) | • | | ing the second | 2 | • | / | / . • = • · · · · · · · · · · · · · · · · · |
| SCHOOL INDUSTRY RELATIONSHIP (1) ED099213 *SCHOOL LOCATION (2) ED106054 ED152499 (3) ED081608 ED152498 ED219286 | *SCHOOL COMMUNITY RELATIONSHIP | , (D | ED087688 | . | ´ · | | > ' | (-3, | 2 3 1 4 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 |
| *SCHOOL LOCATION (2) • ED106054 ED152499 (3) ED081608 ED152498 ED219286 300 | SCHOOL COMMUNITY RELATIONSHIP | (3) | EU100778 | ED174371 | "ED193410 | | | | · · |
| CONT. LOCATION (3) ED08 1608 ED152498 ED219286 300 | SCHOOL INDUSTRY RELATIONSHIP | (D) | ED099213 | | , , . | 23 | · · · · · · · · · · · · · · · · · · · | α , | |
| | *SCHOOL LOCATION | (2) | ED10,6054 | | , , , , . | ′ a | . *; * | a de la companya de l | er i se |
| | | (3) | ED081698 | ED152498 | ED219286 | · · · · · · · · · · · · · · · · · · · | · . · · · | | 3.00 |

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|--|-----------------------|--------------------------|-------------------------------------|--|----------------------------------|----------------------|------------------------|--------------------------|
| *SCHOOL ORIENTATION SCHOOL ORIENTATION | (1) (2) | ED 17559 1 ED 175598 | ED175594 | a de la companya de l | | | | |
| SCHOOL PLANNING | æD , | ED066308 | , J | . 1 | - \$ 1 | | ŕ | • 1 • . |
| *SCHOOL POLICY | (2) | ED158930 | ED175591 | بمروان المراوات | | | | 2 |
| SCHOOL POLICY | (2) | ED175590 | -ED175692 | 4 | | | | · • • |
| *SCHOOL RECREATIONAL PROGRAMS | (D) | ED085163 | • | •• | • | | - | |
| SCHOOL ROLE | (1) | ED193410 | • | | | | e | - |
| *SCHOOL SPACE | (D. " | ED065309 | | | i e | | ; | , _ |
| *SCHOOL YARDS | (2) | ED 193055 | ED196781 | , | | ÷ | • , | , |
| SCHOOL YARDS | CD, | ED205395 | ,• | | | | | • |
| *SCIENCE ·ACTIVITIES | (62) | ED035540 | ED046715 | ED05 1998 | ED053946 | ED06 1034 | ED070588 | ED093589 |
| | ED093599 ED152541 | ED093619 ED154996 | ED103233 ED154999 | ED123055 ED157680 | ED 125862 ED 16 1727 | ED149964 ED165975 | ED150783 ED165976 | ED152531 ED167395 |
| | ED167409 ED179356 | | ED180812 | ED170151 ED182135 | ED170152 ED190360 | ED179352 ED190361 | ED179353 ED190362 | ED179355 ED199363 |
| | ED194306 ED207858 | ED19673.1. -ED21017.1 | ED200407 ED210172 | ED200409 ED211365 | ED200445 ED211373 | ED207817 ED211377 | ED207818 ED211378 | ED207851 ED211379 |
| SOUTH ANTI-LINE | ED211388 | ED214792 | ED216906 | ED216907 | ED216927_ | _ED219234 | 1 | |
| SCIENCE ACTIVITIES . | (45) ED106087 | ED032220 ED119960 | ED033844 ED119961 | ED034676 ED134448 | ED053945 ED144824 | ED080344 ED149843 | ED094948 ED150026 | ED101942 ED151297 |
| • | ED156478 ED180813 | ED157681 ED180814 | ED160418 ED184875 | ED166060 ED196702 | ED168877 ED199092 | ED170139 ED200397 | ED170153 ED206418 | ED180809 ED206419 |
| | ED206420 ED219278 | ED206421 ED219274 | ED211375 ED219275 | ED219268 ED219276 | ED219269 ED219277 | ED219270 ED219286 | ED219271 | ED219272 |
| SCIENCE AND SOCIETY | . (1) | ED207811 | | · · · · · · · · · · · · · · · · · · · | 7.8° | | • | |
| SCIENCE A PROCESS APPROACH | (2) | ED103235 | ED 128055 | | • • | | | , , , |
| *SCIENCE COURSE IMPROVEMENT PROJECT - | CD | ED167410 | • | | ٠. · | • | | • |
| SCIENCE COURSE IMPROVEMENT PROJECT | (8) | ED032220 | ED165975 | ED167409 | | | | |
| *SCIENCE COURSE IMPROVEMENT PROJECTS | (4) | ED179852 | ED179358 | ED179355 | ED216927 | • | | |
| SCIENCE COURSE IMPROVEMENT PROJECTS | (7) | ED179856 | ED190360≒ | ED190361 | ED190362 | ED190363 | ED202724 | ED202727 |
| *SCIENCE CURRICULUM | (8) ED219268 | ED059950 | ED 178 158 | ED 178 159 | ED174442 | ED186282 | ED200397 | ED216906 |
| SCIENCE CURRICULUM | (25) | ED059948 | ED136927 | ED179351 | ED179352 | ED179353 | ED179355 | ED179356 |
| | ED182110 ED219269~ | ED182144 | ED183357 | ED194306 ED219272 | | ED207811 ED219274 | ED216927 ED219275 | ED219234 |
| | ED219277 | ED219279 ED219287 | | | | | | |
| *SCIENCE EDUCATION | (144) ED099221 | ED027991 | ED098098 ED100644 | ED099216 ED100662 | ED099217 ED100663 | ED099218 ED100667 | ED099219 ED100669 | ED099220 ED100671 |
| | ED100672 ED101945 | ED100673 ED102031 | . ED100676 .ED103233 | ED 100697 ED 103234 | ED100698 ED103235 | ED100712 | ED101937 ED103237 | ED101942 ED103238 |
| <u> </u> | ED103239 ED103248 | ED 103241 ED 103249 | ED103242 | ED103243 ED103251 | EB103244 | ED103245 | ED103246 ED106084 | ED103247 ED106088 |
| 001 | ED107466 ED134455. | ED107480 | ED 103250 ED 108890 ED 149964 | ED113151 ED149965 | ED103252 ED113214 ED149986 | ED114268 ED153843 | ED 125868 ED 153845 | ED 139838 ED 153859 - |
| 301 | | | | 2011/100 | 701/23700 | | TO LOOU TO. | 2010000 |

| | ED179353 | ED179355 | ED179375. | ED179411 | ED179412 | ED179416 | ED180791 | ED180811 | |
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| ž. | ED180812 | ED180813 | | ED160000 | ED1(7412 | ED182180 | ED183357 | | |
| | | | ED180832 | ED180833 | ED182137 | | | ED183374 | |
| | ED183392 | ED183416 | ED184859 | ED184860 | ED184865 | ED184869 | ED184875 | ED186231 | |
| | ED186281 | ED186282 | ED187554 | ED187555 | ED187557 | | ED190344 | ED190346 | |
| | ED190348 | ED 191743 | ED194353 | ED197996 | ED197997 | ED 198005 | ED 1980 10 | ED 19801.1 | |
| | ED198012 | ED199114 | . ED199116 | ED200407 | ED200408 | ED200409 | ED200410 | ED200453 | |
| | ED200454 | ED2015014 | - ED201508 | `ED201523 | ED202724 | ED202727 | ED202729 | ED205395 | |
| | ED206465 | ED206467 | ED206468 | ED206469 | ED206470 | ED206471 | ED212458 | ED212460 | |
| | ED212461- | | | | | · | • | | |
| | | | . • | | | | | • • | |
| | (284) | ED033812 | EB089899 | 'ED091172 | EBØ92358 | ED092377 | ED092378 | ED092379 | |
| | · ED093589 | ED093599 | EB093619 | ED093633 | EB093634 | ED099199 | ED099200 | ED099214 | |
| | ED099215 | ED099234 | ED099235 | ED099240 | ED100649 | ED100650 | ED100652 | ED100653 | |
| | ED100654 | ED199234 ED199695. | | | | | ED100052 | ED100661 | |
| | | | | ED100657 | ED100658 | ED100659 | | | |
| | ED100664 | ED100665 | ED100066 | ED100668 | EB100670 | ED100674 | ED100686 | ED100687 | |
| • | ED100688 | .ED100689 | ED100690 | ED100691 | ED100692 | ED100693 | ED100694 | ED100695 | |
| | ED190696 | ED101941 | ED101943 | ED101944 | ED 10 1959 | ED103196 | ED103201 | ED103213 | ٠. |
| | ED103219 | ED103240 | ED 104639 | ED104651 | ED106055. | ED106057 | ED106070 | ED106087 | |
| | ED 106095 | ED107468 | -ED108876 | ED108891 | ED111662 | ED111663 | ED111664 | ED114254 | - |
| | ·ED116910 | ED116946 | ED119962 | | ED119964 | ED119965 | ED125855 | ED 125871 | |
| | ED125885 | ED127160 | ED127161 | ED128163 | ED128185 | ED130821 | ED 130822 | ED 130831 | |
| | ED 133 15 1 | ED134448 | ED134449 | ED 137 063 | ED137064 | ED138461 | ED 138462 | ED141178 | |
| | ED144786 | ED 144707 | ED144788 | ED144794 | ED144824 | ED144825 | ED146044 | ED146048 | |
| | ED147 186 | | | | | | | | |
| | ED147 100 | ED [48581 | ED149979 | ED149980 | ED149981 | ED149982 | ED149983 | ED 149987 | |
| | ED149988 | ED149989# | | ED149991 | ED149994 | ED150026 | ED152531 | | |
| | ED 15384.1 | ED153842 | ED153846 | ED154999. | ED156463 | ED156479 | ED156480 | ED156481 | |
| | ED156482 | ED156483 | ED156484 | ED156485 | ED156486 | ED156529 | ED 156530 | ED 15 6 5 3 1 | |
| | ED156532 | ED157666 | ED157681 | ED157682 | ED157683 | ED157770 | ED159075 | ED 160418 | |
| | ED161727 | ED162897 | ED164334 | ED164341 | ED165988 | ED165991 | ED 167355 | ED167393 | |
| | ED167395 | ED167409 | ED167410 | ED167421 - | | ED168877 | ED170139 | ED170153 | |
| | ED 173082 | ED174407 | ED174436 | ED174442 | ED174479 | ED175722 | ED 175724 | ED175728 | _ |
| | ED175729 | ED175730 | ED176960 | ED177013 | ED178335 | ED 178350 | ED179352 | ED179356 | 40 |
| | ED179374 | ED179395 | ED179414 | ED179415 | ED179417 | ED179421 | ED180757 | ED 180794 | t |
| | - ED 180 808 | ED180809 | EDIEØ814 | ED180827 | ED182110 | ED182113 | ED 182 114 | ED182134 | |
| | ED 182 144 | ED183297 | ED 183363 | ED183368 | ED184735 | ED184817 | ED:184863 | ED184864 | |
| | ED187629 | ED188860 | ED 1829 19 | ED190350 | ED196353 | ED196366 | ED 190361 | ED190362 | * |
| | | | | | | | ED193055 | ED 193058 | |
| | ED190363 | ED190400 | ED191745 | ED193031 | ED193048 | ED193054 | ED 170000 | | |
| | ED193059 | ED193060 | ED193062 | ED193063 | ED194302 | ED194306 | ED194349 | ED194352 | |
| • | ED195399 | ED195403 | ED196577 | ED196702 | ED196728 | ED196731 | ED197998 | , ED198013 | |
| | ED199085 | ED199092 | ED199896 | ED 199 109 | ED200397 | ED200424 | ED200445 | ED200450 | |
| | ED201509 | ED201510 | ED202717 | EB202719 | ED204105 | | ED204183 | ED204 184 | • |
| | ED204 185 | ED204186 | ED206466 | ED207811 | ED207817 | ED207818 | ED207824 | ED207851 | • |
| | ED207858 | ·ED210171 | ED210172 | ED211358 | ED2 1 1365 | ED211373 | ED211375 | ED211377 | • |
| _ | ED211378 | ED211379 | ₁ED211388 | ED212459 | ED214792 | ED216906 | ED216907 1 | ED216927 | |
| - | ED219234 | ED219268 | ED219269 | ED219270. | ED2 1927 1 | ED219272 | ED2 19273 | ED219274 | • |
| | ED219275 | ED219276 | ED219277 | ED219281 | ED2 19287 | | | · a | |
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| | (2) | EB175728 | | Y | | | | | • |
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| - | (1) | ED194302 | | | . • * | • | | • | • |
| | * ** | ED 177002 | | , | | | | | |
| | cas. | ED 148581 | 445001 IT | ED207858 | | | <u> </u> | | |
| | , _{''} (3) | - ET 14000 [| - TD 1 20404 | F050(000 | | | | <u> </u> | |
| | (2) | ED 165975 | ED173159 | | _ | | | - | _ |
| ٠ | 122 | EW 100549 | EDI (O 193 | | ` . | | | · / ~ | _ |
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ED173158, ED179351 ED193031 ED193054 ED193055 ED194353

*SCIENCE EQUIPMENT

SCIENCE EDUCATION

- SCIENCE EQUIPMENT *SCIENCE EXPERIMENTS
- SCIENCE EXPERIMENTS
- SCIENCE EXPERIMENTS
 *SCIENCE FACILITIES
- *SCIENCE FAIRS
- SCIENCE FICTION
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ED041767

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ED099682 ED179980

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|---------------------------|------------------|--|--|---|--|---|--|--|---|
| '3' | • | ED199114 | ED199146 | ED200424 | ED200450 | ED202963 | ED219327 | | . • |
| SCIENCE INSTRUCTION | ٠. | (43) ED179353 ED193048 ED198005 ED200410 ED212459 | ED059926 ED179355 ED193058 ED198010 ED200445 ED212460 | ED150783 ED179356 ED193059 ED193011 ED200453 ED212461 | ED182110 ED193060 | ED165976 ED190346 ED193063 ED199092 ED201501 | ED171456 ED191747 ED194349 ED200397 ED202729 | ED17 1475 ED19 1749 ED19 4352 ED200407 ED207818 | ED179352 ED193047 ED196731 ED200409 ED212458 |
| *SCIENCE MATERIALS | | Ω, | ED138461 | | . • | ٠ - | , . | | |
| SCIENCE MATERIALS | , | (7) | ED119962 | ED119963 | ED1 19964 | ED119965 | ED125862 | ED128185 | ED173072 |
| SCIENCE, PROGRAMS | | ന് | ED173158 | | , | | • • • | • • | |
| *SCIENCE PROJECTS | | (2) | ED044295 | ED116904 | , | • | ٠. | ، مور | • |
| *SC IENCES | , <u>ā</u> | (4) | ED080368 | ED099229 | ED099230 | ED135656 | | , At | • |
| SCIENCES | , | (33) ED099240 ED142489 ED160282 ED195389 | ED035473 ED101959 ED15776& ED160283. ED214752 | ED038207 ED198874 ED157766 ED160264 | ED063162 ED108875 ED157768 ED160286 | ED082978 ED134434 ED157817 ED182135 | ED087188 ED137100 ED157818 ED183368 | ED087 189 ED141 162 ED157820 ED190398 | ED093673 ED142488 ED160281 ED190399 |
| SCIENCE TEACHERS . | | (4) | ED 193031 | ÷ > | · ; - | .* | | · | |
| *SCIENCE UNITS | • | (3) | ED059901 | ED094912 | ED153846 | • | • | | |
| SCIENCE UNITS | | (5) | ED096085 | ED100639 | ED128081 | ED 15 1297 | ED 152531 | | |
| *SCIENTIFIC CONCEPTS | | CD. | ED197996 | | • | | | • | |
| SCIENTIFIC CONCEPTS | , | (5) | ED167410 | ED173072 | ED179793 | ED 179794 | ED193048 | • | • <u>:</u> |
| SCIENTIFIC PRINCIPLES | | (1). | ED053946 | | | • | • | | |
| #SEAFARERS . | | (D) | ED202727 | | | • | | | • • |
| SEAFARERS | | (2) | ED211374 | ED216906 | • | • | , | - | - |
| SEA GRANT | | (D) | ED167393 | | | · | n Sek | | |
| SEA GRANT PROGRAM | | (4) i | ED177012 | ED177013 | ED177014 | ED177015 | • | , | • |
| *SEASHORE ECOLOGY | | \mathbf{co} | ED209062 | ٠, | 7 | 4 | • | | |
| *SECONDARY EDUCATION 305 | € : - | (133) ED099191. ED099233 ED100666 ED100695 ED133214 ED133230 ED147188 ED153841. ED1561754 ED170139 ED170139 ED170139 ED170139 ED170139 ED170139 ED170139 | ED099240 ED100667 | -ED099210 ED100659 ED100671 ED100692 ED121566 ED133224 ED134449 | ED07 0635 ED099213 ED100660 ED100672 ED100696 ED133225 ED133656 ED149991 ED153844 ED1567465 ED173159 ED173159 ED173159 ED173131 ED102131 ED108936 ED201523 | ED101943 ED130822 ED133084 ED137064 ED137064 ED154986 ED156486 ED167370 ED1771614 ED182132 ED193048 ED193048 | ED099186 ED099230 ED100662 ED100674 ED1019841 ED133227 ED137065 ED14993 ED156479 ED157757 ED167372 ED174407 ED179375 ED179375 ED182133 ED196702 ED196702 ED202719 | ED100688 ED106084 ED133151 ED133228 ED137100 ED149994 ED156480 ED157765 ED167373 ED174436 | ED106088 ED133213 ED133223 ED14327 ED144787 ED156481 ED158966 ED167374 ED175718 ED180757 ED182135 ED182135 |
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| | (188) - | EB042607 | ED066366 | ED098096 | ED098098 | P.D.O.O.O.O.O. | E0099488 | ED10 06 44 | |
| | ED100664 | ED100668 | ED100669 | ED100670 | ED100777 | ED098100 ED103294 | ED104651 | ED100077 ED104794 | |
| • | ED107466 | ED107471 | ED107480 | ED107549 | | ED108890 | ED 110396 | ED111662 | |
| | ED 111663 | ED111664 | ED1/11716 | ED113215 | ED113216 | ED113256 | ED113269 | ED116914 | |
| | ED116981 | ED118486 | ED118526 | ED120046 | ED120048 | | . ED 120068 | ED 120069 | |
| | ED121654 | ED121656 | ED125865 | ED 125925 | ED125928 | ED125930 | ED 125931 | ED125933 | |
| | ED125937 | ED125938 | ED127161 | ED128185 | ED128289 | ED 133207 | ED133208 | ED133209 | |
| . 3 | ED133210 | ED133211 · | ED133212 | ED133216 | ED133217 | ED133218 | ED 133219 | ED133220 | |
| | ED 134526 | ED134537 | ED134538 | ED137075 | ED138538 | ED141175 | ED142481 | ED146084 | |
| | ED 147216 | | ED147223 | ED147224 | ED147589 | ED147590 | ED149965 | EB152643 | |
| • | ED 153923 | ED154999 | ED157818 | ED157819 | ED157835 | ED 157836 | EÐ157837 | ED 164334 | |
| | ED164417 | ED166301 | ED167317 | EB167366 | ED167367 | ED167368 | ED 167369 | ED 16737 1 | |
| | ED167413 | ED167451 | ED167452 | ED169964 | ED170153 | ED 17 1597 | ED 173057 | ED173158 | |
| ## B.P | ED174484. | | ED176908 | ED177012 | ED178350 | ED179356 | ED179374 | ED1794 N | |
| | ED179412 | ED179414 | ED179415 | ED179416 | EB179417 | ED179436 | ED179792 | ED179980 | |
| | ED180774 | ED189791 | ED186889 | ED163812 | ED180813 | ED 180814 | ED180827 | ED182137 | ` |
| | ED183363 | ED183392 | ED184817 | ED184859 | ED184860' | ED 184863 | ED 184864 | ED 184865 | |
| • | ED 184866 | ED186282 | ED186316 | ED188977 | ED190350 | ED 190353 | ED 190360 | ED19036 i | |
| | ED190362 | ED190363 | ED190400 | ED19 1745 | ED193047 | ED 193060 | ED (93063 | ED194325 | |
| | ED194353 | ED195396 | ED195399 | ED196725 | ED 196731 | ED197924 | ED198011 | ED 1980 12 | |
| | ED199175 | ED200279 | LD200881 | ED200397 | ED200408 | ED200414 | ED201501 | EĎ201508 | |
| - `. | ED202724 | ED202726 | ED202765 | ED207814 | ED207818 | ED207851 | ED207858 | ED211379 | |
| | ED211388 | ED2 12459 " | ED212461 | LB2124949. | ED212519 | ED213582 | ED213583 | ED214794 | |
| 4. | ED215863 | ED216369 | ED2.16927. | ED219278 | ED219287 | · • | | | |
| | *** | | | , w , | | | | | |
| | (31)* | ED063162 | EB06629B. | | ED067244 | ED067304 | ED068337 | ED068348 | |
| | ED973923 | ED077723 | ED379100 * | | ED982978 | 'ED085248 | ED086507 | ED093682 | |
| | ED299199 | KD099200 | ED999215 | E0099234 | ED099235 | ED101959 | ED103201 | ED116910 | |
| | ED 12 12 62 ; | ED137056 | ED139671 | ED141116 | ED 141 157 | ED 14 1 159 | ED141162 | ED144788 | |
| • | (44) | Engagoto | DDA COOC | Procedule | EDOCEO40 | 50.50 · O= | DD 050000 | ND OF A A A | |
| • | (44) EDGEOGEO | ED033812 | ED946826 | ED055015 | ED955940 | ED058127 | ED059926 | ED059947 | |
| × | ED059950 ED071868 | ·EB059958 \ | | ED062182 | ED062234 | ED064196 | ED066407 | ED068339 | |
| | ED080361 | ED073032 .: ED081595 | ED07J913 ED983004 | ED975315 ED988722 | ED079068 ED092377 | ED080344 ED092378 | ED080348 ED092379 | ED080349 | |
| | ED103219 | ED103234 | ED103286 | ED103238 | ED 103239 | ED103240 | ED 103244 | ED103196 ED103247 | |
| | ED103250 | ED10325.1 | | ED141094 | ED141158 | CD100270 | AD 1002 31 | 20 100271 | |
| | | | D-14-04-0 | Politica | D#111100 | • | 1 | | |
| | (10) | ED219268 · | ED219269 | ED219270 | ED219271 | ED219272 | ED219273 | ED219274 | |
| | ED219275 | ED219276 | ED219277 | • | | | 4 | | • |
| | 4. | • | | • | | ~ئىز. | - | | |
| * | (2) | ED213582 | ED213583 | | | , k | • | | |
| | | 220000 | 200 | | | | | bridge a stand | Ė |
| | (7) | ED085249 | ED100664 | ED10066B. | ED 1060 69 | ED190670 | ED193061 | ED214794 | , |
| | (1) | ED179792 | 1 . | J | • • | | | . */ | |
| | (i) | -En1(21.50 | î | | • | | • | / . 6 | |
| | (63) | ED028086 | ED033253 | ED033862 | ED043501 | ED045380 | ED046715 | ED046781 | |
| | ED050940 | | ED055833 | ED061058 | ED061060 | ED086522 | ED086552 | EDØ86553 | , |
| | ED086354 | | ED086336 | ED092358 | ED993599 | ED099229 | ED099230 | ED100697 | |
| | ED100698 | ED101942 | ED101945 | ED107471 | ED111662 | ED111663 | ED111664 | ED127-161 | |
| | ED128185 | ED134455 | ED137075 | | ED141175 | ED149964 | ED149965 | ED157758 | |
| | ED164334 | ED170153 - | ED193060 | ED193063 | EBI94302 | ED194325 | ED196731 | ED198010. | |
| | ED198011 | ED198012 | ED199114 | ED200408 | ED200409 | ED200410 | ED200454 | ED207811 | ,, |
| | ED207858 | ED210172 | ED211365 | ED211388 | ĽDŹ 12409 | ED216927 | ED219281 | ED219287 | |
| | | | ·. | | | | <u> </u> | | |
| • | (39) | ED039138 4 | | ED053945 | ED053946 | ED055806 | ED059901 | ED061061 | |
| | ED062122 | ED062176 | ED962100 | ED026473 | ED986557 | ED093682 | ED099189 | ED141145 | |
| | ED179352 | ED 179353 | ED179355 | ED179356 | ED186282 | ED190360 | ED190361 | | |
| | ED190363 | ED193047 | ED193061 | ED194353 | ED196702 | ED 199085 | ED200397 | ED204105 | , |
| | ED207817 | ED207818 | ED207824 | ED20785 1~ | E0211373 | ED211379 | ED212461. | ED216907 | |
| | ·(5) { | ED093589 | ED093619 | ED093621 | ED094948 | ED 100001 | | | |
| | (3) | EDU70007 | PROSORIA | ED070041 | 2,00,74740 | ED108891 | - , · | | |
| | (1) | ED170101 | | 4 | | • | r | വിവ | :, |
| ٠. | | | | 7 .2 | · - / . | | | 3.08 | |

*SECONDARY CRADES

SECONDARY GRADES

*SECONDARY SCHOOL CURRICULUM

SECONDARY SCHOOL CURRICULUM

*SECONDARY SCHOOL MATHEMATICS

SECONDARY SCHOOL MATHEMATICS

*SECONDARY SCHOOL SCIENCE

SECONDARY SCHOOL SCIENCE

SECONDARY SCHOOL STUDENTS

DARY SCHOOL TEACHERS

| | . / | | • | | | | , | • | • | |
|--|-------|-------------------|------|----------------------|------------|-----------|-----------|-------------|--|----------|
| SECOND LANGUAGE INSTRUCTION *SEDRO WOOLLEY PROJECT | • | ·(1)· | | ED187629 ED959949 | Eb059950 | ED061118 | ЕĎ 100777 | ED 100778 | ED102048 | |
| · SEDRO WOOLLEY PROJECT | • | (2) | , | ED059947 | ED059948 | 7. | | | | -, |
| *SEISMOLOGY | • | (1) | • | ED216927 | r | | • | | | |
| SELF ACTUALIZATION | . • | Θ | ٠, ١ | ED121656. | | . • . | · '» | : | • • • | • |
| *SELF CONCEPT | , | (D) | • | ED169256 | * | • | . • | <u>پ</u> | <u>~~` • • • </u> | |
| SALF CONCEPT - | | (5) | | ED055018 | ED093743 | ED 186977 | ED 197924 | ED200381 | , . | |
| SELF DIRECTED CROUPS | , | Ø | | ED176908 | | • | | | | |
| *SELF ESTEEM | | (1) | | EB197924 | | .• | | • | | |
| SELF ESTEEM | v | (2) | | ED055018 | ED194261 | | | | | ` |
| 'SELF EVALUATION (INDIVIDUALS) | , | ÇO _ | | ÈD188977 | u.e | | • | | , • | , , |
| *SEMANTICS . | | (1) | · . | ED056873 | | • | , | 1 | • | ' |
| SEMANTICS - | • | (1) | • | ED149594 | * | | ` | | , , | ۰ ,۹ ـ |
| SENIOR HIGH SCHOOLS | | (2) | | ED147590 | ED157820 | i inge | | • | • • • | • ′ |
| SENSORY EXPERIENCE | • | (6) | . • | ED160285 | ÆD165972 | ED165973 | ED 165975 | ED165976 | ED215926 | • |
| .SENSORY TRAINING | • | , (2) | ٠, | ED 19 5389 | ED198980 | | | | 4- | • |
| SENTENCE STRUCTURE | | (D) | | ED149594 | ٠, | , · · . | • | | | ` |
| SEQUENTIAL LEARNING | | ° (i) | | E D 064196 | | | - | • | ٠, | • |
| SEQUENTIAL PROGRAMS | | ωΣ ζ1) | | ED088722 | . ~ | • | , . | | • | |
| SERVICE VEHICLES | | (2) | | ED147581 | ED147582 | • | . ••• | . \ | • | ٠. |
| *SEX BIAS | | (1) | | ED187875 | | • | | | • | |
| SEX DISCRIMINATION | | (1) ' | | ED202940 | • | 1. | | | , v |) |
| SEX EDUCATION | a fi | (i) | | ED046826 | • | • | | | : ' | , . |
| SEX ROLE | | (1) المسود الا | | ED187875 | ſ | • | | <i>1</i> •. | · · · · · · · · · · · · · · · · · · · | |
| *SEX STEREOTYPES | | (1) | | ED187875 | • | | r | , | , , | • |
| *SHADOWS | , **· | (1) | | ED103248 | | • | | | | |
| SHIPBUILDING | | (1) | • | ED211376 | | • | • | | | , |
| *Simpping industry | | (3) | | ED202717 | ED202726 | ED202727 | • | | 4 | |
| *SHIPS | | ÇĐ , | • | ED211376 | | | | | • | |
| SHIPS | | (1) | | ED141142 | f | , | | • | . • | |
| *SHOPPING CENTERS | • | (2) | | | ED 17 1475 | | • | 1 7 | | |
| SHORT COURSES | , | . (4) | • | ED106213 | ED113214 | ED113215 | ED113216 | , -, | | |
| (A) | | | - | * * * | - | _ | , , | | | ~ ~ ~ |

| · · · · · · · · · · · · · · · · · · · | | | | 1 | | - | • | | | |
|---------------------------------------|----------|---|----------------------------------|--|----------------------------------|-----------------------------------|----------------------------------|----------------------------------|---------------------------------------|---------------------------------------|
| SIGNS SIMULATED ENVIRONMENT | • | \mathbf{B}_{n} | ED089899 ED125933 | a and a second | • | | , | | •, | , |
| *SIMULATION | - i . | (22) ED141162 ED179412 | ED081595 ED167365 ED179414 | ED08 1 601 ED167366 ED1 7 9416 | ED082982 ED167367 ED179416 | ED111716 ED167368 ED179417 | ED125925 ED167369 ED187606 | ED125933 ED167370 ED214838 | ED134526 ED179411 | |
| SIMULATION | | (12) ED165991 | ED055940 ED167372 | ED093743 ED174365 | ED099 235 ED174368 | ED103219 ED214842 | -ED134537 | ED15 1297 | ED1,54996 | |
| *SITE ANALYSIS | • | (2) | ED06630D | ED141953 | | | | • | , . | |
| SITÉ ANALYSIS | | c D | ED069468 | | | | · · · | ، ڊ | • | • |
| *SITE DEVELOPMENT | ٠, | (3) | Y ED065309 | ED08160D | ED141953 | ٠, | • | , | , , | |
| SITE DEVELOPMENT | | (3) | ED066308 | ED 12592D | ED 125 930 | . 4 | | | Ť. | |
| SITE SELECTION | | (4) | ED041767 | ED067202 | ED151123 | ED171475 | `, | | | , |
| SKILL-DEVELOPMENT | | (24) ED147222 ED155069 | ED120069 ED147224 ED176908 | ED121566 ED1475D1. ED188977 | ED121567 ED147582 ED194261 | ED121653 ED147589 ED204084/ | ED128081 ED147590 ED207824 | ED135690 ED150079 ED215923 | ED135694 ED154999 ~ EB216828 | |
| ≉SLOW LEARNERS | | ED218204 | ED#59949 | • | • | , | · /. | • | • | • |
| SLOW LEARNERS | | \mathbf{O} | • | | | | | | • | |
| - SLUMS | | (D) | ED121653 ED106057 | · ' . | • | | • | · | ⁴ | |
| SMALL CROUP INSTRUCTION | | (D) | ED059950 | • , ' • | | ٠٠ | | | · | |
| SNOW | | t D | ED103249 | • . | | · | • | | | |
| *SOCIAL ACTION | 4.5 | co · | ED1282D9 | | | | · · · · · · | * * * · · | | |
| SOCIAL ACTION | | (2) | ED187606 | ED188977 | • | | | , | • , | |
| SOCIAL ATTITUDES | • | (2) | ED130831 | ED218294 | | 3.2 | • | ٠, | , . | , f |
| *SOCIAL CHANGE \ | · . | (2) | ED110396 | ED 164417 | \rangle | , | | · V | | - |
| SOCIAD CHANGE | · | (7), · | ED051012 | ED091269 | ED125930 | ED135690 | ED135694 | ED147223 | ED156593 | <u>.</u> |
| SOCIAL: DEVELOPMENT | * y* | (D 🐝 🌷 | ED176911 | | 1 | المستدار | , , | | · · · · · · · · · · · · · · · · · · · | . 3 |
| *SOCIAL DISCRIMINATION | <u> </u> | \mathbf{co}^{-1} | ED202940 | · . | _ | | • | | ** | , . |
| *SOCIAL ENVIRONMENT | • • • | (D) | ED100650 | <u>`</u> | . ` | | | | | • |
| SOCIAL ENVIRONMENT | | (.2) | ED125933 | ED201421 | | * | • | | • | . ~ |
| SOCIAL FACTORS | | (2) | ED110396 | ED157834 | . * | * . | | ٠. | | |
| *SOCIAL HISTORY | | CD · | ED156593 | , | * | • | | , | , | |
| SOCIAL INDICATORS | ļ., | (D) | ED164417 | | | | 1 | | • | |
| #SOCIAL INFLUENCES | | $\mathbf{e}\mathbf{\hat{p}}_{\mathbf{y}}^{(s)}=\mathbf{\hat{q}}_{\mathbf{y}}^{(s)}$ | ED091269 | , - A. | | 1 | | | , * | , . , |
| SOCIAL INFLUENCES | | (3) | ED113256 | ED171597 | ED216081 | | • | | | |
| ERIC 311 | | The same of the same | | | | | The same | | 312 | e e e e e e e e e e e e e e e e e e e |

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SOCIALIZATION
SOCIAL MOBILITY
**SOCIAL PLANNING
**SOCIAL PROBLEMS
                                                                                                                                                                         (3)
                                                                                                                                                                                                                                ED055018 ED178232 ED193410 PED091268
                                                                                                                                                                                   w co
                                                                                                                                                                                                                                *\ ED055940
  SOCIAL PROBLEMS

(4) ED142481 ED187606 ED200435 ED207859

(11) ED056940 ED098100 ED104794 ED110396 ED134449 ED151297 ED153923

SOCIAL RESPONSIBILITY

(1) ED128289

(9) ED092437 ED120044 ED153842 ED156481 ED156482 ED156486 ED170151 ED170152

SOCIAL SCIENCES

(29) ED017377 ED055015 ED068339 ED082978 ED099240 ED100777 ED1619441 ED136656 ED141218 ED130465 ED120046 ED120048 ED120049 ED133216 ED135656 ED144178 ED149964 ED152643 ED156531 ED156531 ED156532 ED166660 ED170139 ED188919 ED190353 ED214752
    SOCIAL STRATIFICATION
                                                                                                                                                                                                (1) + ED091268
       SOCIAL STRUCTURE
                                                                                                                                                                                                   (1)
                                                                                                                                                                                                                                  ED 186593
                                                                                                                                                                 (96) ED039138 ED055018 ED055864 ED058127 ED067304 ED068348 ED080367 ED087688 ED091268 ED091269 ED093743 ED098100 ED099187 ED100673 ED100674 ED100778 ED101941 ED101943 ED102048 ED110396 ED116946 ED118486 ED120053 ED145266 ED135690 ED135694 ED135384 ED141142 ED141157 ED141162 ED142488 ED142489 ED146084 ED147222 ED147223 ED147224 ED150026 ED153843 ED153844 ED153845 ED153845 ED155869 ED157834 ED157835 ED157836 ED157837 ED164414 ED165976 ED165977 ED167366 ED167368 ED174407 ED179351 ED179436 ED179795 ED182180 ED183368 ED184862 ED186315 ED186316 ED188977 ED193047 ED193048 ED199116 ED199120 ED196403 ED196788 ED197998 ED198013 ED198018 ED199116 ED199116 ED199140 ED199146 ED200408 ED200414 ED200424 ED200445 ED201501 ED201523 ED202726 ED206470 ED206471 ED207851 ED207859 ED212458 ED218204 ED219327
   *SOCIAL STUDIES
                                                                                                                                                                                                  ED212461 ED212519
ED219327
                                                                                                                                                                      (127) ED035473 ED059926 ED059948 ED063162 ED075315 ED082982 ED089899 ED091172 ED092377 ED092378 ED092379 ED093673 ED099234 ED100644 ED100777 ED101944 ED101959 ED103294 ED108875 ED111664 ED114254 ED118526 ED120054 ED121653 ED121654 ED121656 ED124450 ED124451 ED125933 ED125937 ED125938 ED134536 ED137100 ED141159 ED149985 ED150079 ED151297 ED157666 ED157766 ED167365 ED160281 ED160282 ED160283 ED160286 ED162896 ED162897 ED167296 ED167365 ED167367 ED167369 ED167370 ED167371 ED167372 ED167373 ED167374 ED167449 ED167450 ED167451 ED167450 ED167451 ED167450 ED179412 ED179412 ED179412 ED179412 ED179412 ED179412 ED180827 ED187564 ED187565 ED187606 ED18860 ED188860 ED188868 ED190346 ED190348 ED190350 ED190398 ED190309 ED191745 ED191749 ED193062 ED190348 ED190350 ED190398 ED1904440 ED195399 ED196724 ED190460 ED190366 ED190368 ED1904349 ED194352 ED194353 ED194440 ED195399 ED196725 ED190460 ED190481 ED201508 ED201500 ED207616 ED207818 ED207824 ED207861 ED207829 ED206467 ED200460 ED200481 ED201508 ED201509 ED207616 ED2007818 ED207824 ED207861 ED207829 ED206418 ED207817 ED207802 ED207829 ED207829 ED206418 ED206419 ED207817 ED2007814 ED207824 ED207829 ED205395 ED206418 ED206407 ED207829 ED207829 ED206418 ED206419 ED207829
      SOCIAL STUDIES
*SOCIAL STUDIES UNITS (29) ED034104 ED051011 ED051012 ED064187 ED066407 ED073032 ED088722 ED098084 ED104794 ED107549 ED113215 ED113216 ED116981 ED118526 ED120668 ED121653 ED121655 ED121656 ED120686 ED1206927 ED151297 ED153923 ED156594 ED156595 ED120644 ED120046 ED120046 ED120046 ED120046 ED120046 ED120046
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| | · · · · · · · · · · · · · · · · · · · | ED120048 ED157819 | ED120049 ED157820 | ED120069 ED166301 | ED123136 | ED138538 | EB146084 | ED157817 | `ED157818 |
|----------------------------|---------------------------------------|-------------------------------|-------------------------|----------------------|----------------------|----------------------|----------------------|------------------------|----------------------|
| SOCIAL SYSTEMS | , | (1) | ED147223 | , | • • | | • | | · • |
| SOCIAL VALUES | 1. | (8) ED192136 | ED174407 | ED182118 | ED182131 | ED182132 | `ED182133 | ED182134 | ED182135 |
| *SOCIOCULTURAL PATTERNS | | ' (3) | ED099231 | ED099232 | ED162886 | • | | • | • |
| SOCIOCULTURAL PATTERNS | | (2) | ED055864 | ED100650 | <u>.</u> | | | | |
| *SOCIOECONOMIC INFLUENCES | • | co. | ED166013 | • | - | • | • | | |
| *SOCIOLOGY | 1 | Œ | ED066407 | | , • | | | | • |
| SOCIOLOGY | 1 7 | (3) | ED100673 | ED1 13256 | ED173082 | • | | | - |
| *SOIL | | (co | ED103250 | • | | • | | • | • |
| SOIL | | °(3) | ED100676 | ED100712 | ED103244 | | | • | |
| *SOIL CONSERVATION | • | , s\$(1) ° | ED067218 | | | • | • | | , · · · · · , |
| SQIL CONSERVATION | | (7) | ED092379 | ED144332 | ED174435 | ED175598 | ED175594 | ED201422 | ED201423 |
| *SOIL CONSERVATION SERVICE | · . | (2) / | ED152498 | ED152499 | | | <u>.</u> م | • • | |
| SOIL CONSERVATION SERVICE | *** | $^{-1}$ $^{\circ}$ $^{\circ}$ | ED157666 | ' | | | | • | |
| *SOIL SCIENCE ° | | ΄ ω, | ED193055 | • • | • | | | | · |
| SOIL SCIENCE | | (9) ED174435 | ED644295 ED205395 | ED06 1058 | ED156594 | ED157680 | ED157771 | ED165975 | ED173082 |
| *SOLAR ENERGY | | (3) | ED173158 | ED178159 | ED178168, | | | | , |
| *SOLAR RADIATION | , | (11) ED187557 | ED 173 158 | ED173159 ED216907 | ED173163 ED219274 | ED179798 | ED179794 | ED183392 | ED 1846 17 |
| SOLAR RADIATION | | (15) ED184869 | ED 173062. ED 186281 | ED179395 ED186282 | EB179792 ED194353 | ED180791 ED211368 | ED180826 ED212492 | ED 182137 ED 212493 | ED183374 ED212494 |
| SOLID WASTE | | . (1) | ED 106095 | - Company | | | , | | - |
| *SOLID .WASTES | * * | · en | ED137065 | <u>.</u> | | -/ | 1 | 2/ | } |
| soļid Wastes | | ് ; ന ് | ED103196 | | | | 106 | , , | |
| SOUTH CAROLINA | | To the | ED123095 | | • - • | | 4 | | • |
| SOUTH CAROLINA | • • • • | (1) | ED2 19278 | | | na di samori. | | • | |
| *SPACE SCIENCES | | (1) | ED170141 | | , | | \mathcal{L} | · | (-2 |
| · SPATIAL RELATIONSHIP |) . | (D) | ED123136 | | | • | | ; | • |
| *SPECIAL EDUCATION | | (2) | ED 180814 | ED 183363 | | | | | • • • |
| SPECIAL EDUCATION | L | (2) | ED 157768 | ED179421 | ٠ | | | | |
| _*Special Programs | , , , , , , , , , , , , , , , , , , , | $_{\odot}$ | ED200381 | | | | | /. g | |
| EDIC II CURRICULUM | | (D* | ED196102 | | | | | 5. | 316 |
| ERIC 315 | | | STATE OF STATE OF | | | | | 45 | Market State |

| | | • | | | 100 100 100 | | ν. | |
|---|---|----------------------|--------------------------|------------|-------------------|---------------------------------------|---------------------------------------|------------------------------------|
| SPEECH SKILLS *STAFF IMPROVEMENT | (3) | ED169563 ED145845 | ED169564 | ED197924 | • | | | |
| STAFF IMPROVEMENT | (D) | ED165970 | • | | | | | |
| STAFF ROLE | (3) | ED024484 | ED175590 | · ED201421 | | | | |
| *STATE CURRICULUM CUIDES | (4) | ED123034 | ED137056 | ED196726 | ED204138 | | | |
| STATE CURRICULUM GUIDES . | (6) | ED125862 | ED139671 | ED212492 | ED212493 | ED212494 | ED219278 | - · · |
| *STATE DEPARTMENTS OF EDUCATION | (i) | ED156473 | ` | | • | | • | \ |
| STATE DEPARTMENTS OF EDUCATION | (1) | ED196726 | | | , | | | Í |
| *STATE HISTORY | (1) | ED150079 | 1 | • | | - | • | - 1 |
| STATE HISTORY | $\mathbf{O}_{\mathbf{G}} = \mathbf{O}_{\mathbf{G}}$ | ED 138538 | | | , | • | | į - |
| STATE PROGRAMS | (4) | ED123934 | ED204138 | ED211378 | ED211379 | | , | , |
| STATEWIDE PLANNING | (n) | ED196726 | | | | ŀ | | * |
| - STATISTICAL DATA | ω | ED202765 | • | a | | | · · · · · · · · · · · · · · · · · · · | |
| *STORY TELLING | (1) | ED125937 | , | * | | <u> </u> | | • \ |
| *STRAND APPROACH TO ENVIRONMENTAL EDUCATION | (I) . | ED160285 | - ` . | | | - - | 2 | , |
| *STREAMS | (1) | ED 103251 | | | | | | * * * |
| *ŞTUDENT ATTITUDES | (2) | ED 125938 | ED147216 | | • | | • | |
| STUDENT ATTITUDES | (10) ED197924 | ED125937 ED201421 | ED 142488 ED 2 1484 1 | ED151297 | EU164283 | ED167895 | ED187675 | ED196102 |
| STUDENT BEHAVIOR | (7) | ED071264 | ED071265 | ED971266 | ED071267 | ED175599 | ED 175591 | ED 175592: |
| *STUDENT CENTERED CURRICULUM | (2) | ED058127 | ED125938 | | * | | * 1 | - 1 |
| STUDENT CENTERED CURRICULUM | (6) | ED085163 | ED113214 | ED113215 | ED113216 | ED123695 | ED (25937 | |
| STUDENT DEVELOPED MATERIALS | (1) | ED093648 | | | • | · | | |
| STUDENT EVALUATION | (4) | ED167449 | ED167450 | ED167451 | ED167452 | · · · · · · · · · · · · · · · · · · · | _ , | |
| STUDENT EXPERIENCE | (D) | ED167317 | · . | | | | , | |
| STUDENT HANDBOOKS | (2) | ED175591 | ED176592 | • | | ٠١٠ ح | | |
| STUDENT INTERESTS | (1) | ED125938 | j | • | 4 4 7 | · , , } | | |
| *STUDENT NOTIVATION | 5(1) | ED216828 | ·] | | ٠. ٠ | | · | |
| STUDENT NOTIVATION | (1) | ED174371 | 1. | | , | | | |
| *STUDENT NEEDS | (D) | ED195544 | <i>i</i> | | , . | 1 1 1 | , , | $ \cdot _{\mathcal{H}_{\alpha}}$ |
| STUDENT OPINION | CD . | ED151297 | <i></i> | | | | · · · \ | 11/1 |
| *STUDENT PARTICIPATION | $\{Q\}$ | ED216828 | | . ! | شبه ا | | • • • | |
| STUDENT PARTICIPATION | (8) | ED058127 | ED 125933 | ED141953 | EĎ15 50 69 | ED171466 | . , , | 318 |
| TERÍC 317 | | | 1 | | • | | | |

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|-----------------------------------|-------------------------|----------------------------------|------------------------------------|-------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| *STUDENT_PROJECTS | (7) (15) ED087688 | ED050940 ED058127 ED113148 | ED068337- ED059085 ED113151- | ED06 1058 | ED113143 ED062122 ED142489 | ED116914 ED068366 ED171466 | ED142488 ED073923 ED196724 | ED180757 ED081608 ED196725 |
| STUDENT REACTION | · (2) ' | ED125938 | ED151297 | • | | | • | ٨. |
| *STUDENT RESEARCH | (3) | ED061060 | ED179794 | ED 180757 | | | | · · |
| STUDENT RESEARCH | (4) | ED046781 | ED080348 | ED080349 | ED083004 | • | ` | |
| *STUDENT RESPONSIBILITY | (1) | ED175591 | • , | | | | | |
| STUDENT RESPONSIBILITY | (2) | ED196724 | ED216828 | | , | | | |
| **STUDENT ROLE | (1) | ED038223 | • | | | | | · . |
| STUDENT ROLE | (3) | ED038222 | ED038224 | ED175591 | ,, | | - | • |
| STUDENT TEACHER RELATIONSHIP | (4) | ED070680 | ED070681 | ED187485 | ED201421 | | 4 | |
| *STUDENT TEACHING ** | (i) | ED074038 | | | ٧. | • | | • |
| STUDENT TRANSPORTATION | (I) | ED 158930 | | • | , | | • | •. |
| STUDENT VOLUNTEERS | (n) | ED175592 | | , | | | | |
| *STUDY CENTERS | . (1) | E D1,25852- | | | | , | ,— <u></u> | • |
| STUDY CUIDES | (5) 🗸 | ED0 <u>6</u> 8366 | ED070615 | ED083117 | ED086553 | ED086555 | | • |
| STUDY CUIDES | (5) | ED086552 | ED086554 | ED086556 | ED086557 | ED180757 | | |
| *SUBURBAN YOUTH | (4) | ED176908 | • • | , . | | ,. | • | `C . |
| SUMMER PROGRAMS | (4) | ED027991, | ED038223" | `-EĎ170135. | ED204084 | • | • . | · |
| SUNKEN MEADOW STATE PARK MY | 46(1) (1) | ED186156 | • | | | • | | • |
| SUPERVISION | (1) | ED158930 | | | | , . | | |
| SUPPLEMENTARY EDUCATIONAL CENTERS | (2) | ED033784 | ED033788 | | - | į. • | | • |
| *SUPPLEMENTARY READING MATERIALS | i (i) | ED214752 | • | , | • | | | • |
| SURVEYS | . (6) | ED160283 | ED 164283 | ED165977 | ED167371 | ED170135 | ED183368 | |
| SURVIVAL SKILLS | (3) | ED158906 | ED183297 | ED216828 | | ` • | | • |
| SWINMING | (1) | ED158930 | • | | • | • ,* | • ' ; • • | • |
| *SYNTAX | Siton (gran | ED149594 | * | | | | | |
| *SYSTEMS APPRÒACH | CD | ED186282 | | | | • | | <u> </u> |
| *SYSTEMS CONCEPTS | (D) · - / | ED098084 | • | | · · | • 1 | • | 1 1 |
| TABLES (DATA) | , (4) | ED147224 | | | <i>:</i> | | , | |
| TACTUAL PERCEPTION | • (D) | ED215926 | • • | | - | | | <u>.</u> |
| *TALENT | ,-(1) | ED181656 | | • • • • • | | | | |
| TAXONOMY | (1) | ED062180 | | | | | , v <u>.</u> | 320% |
| ERIC 319 . | 12 magain | | | | , | (• | ,, | 4.20 % |

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|-------------------------------------|--|--|---|--|--|
| *TEACHER AIDES TEACHER ATTITUDES | (1) (1) | ED089899 ED187875 | • | | • |
| TEACHER CERTIFICATION | Ç (1) | ED152498 | • | 1 6 | |
| *TEACHER DEVELOPED MATERIALS | (1) (2) | ED157682 ED206419 | • | • | • |
| TEACHER DEVELOPED MATERIALS | (26) EDI25930 EDI57681 EDI67452 | ED058127 ED106088 ED125931 ED125933 ED157817 ED157818 ED206418 ED209125 | ED120053 ED124450 ED125937 ED125938 ED157819 ED157820 | ED124451 ED125925 ED137056 ED144332 ED167449 ED167456 | * ED147222 |
| *TEACHER EDUCATION, | - (3) | ED074038 ED128163 | ED174484 | | |
| TEACHER EDUCATION . | (5) | ED027991 ED039138 | ED160528 ED171807 | ED180794 | |
| TEACHER EDUCATION CURRICULOM | (1) | ED087576 | • | • | 4 m |
| TEACHER IMPROVEMENT | ci | ED160285 | | No. 1 | 4 |
| *TEACHER ORIENTATION | (1) | ED175590 . | | | |
| *TEACHER RESPONSIBILITY | , (D) | ED158930 . | , | , • | • |
| TEACHER RESPONSIBILITY | (2) | ED129535 ED176968 | | | 11. |
| *TEACHER ROLE | (2) | ED175590 ED201421 | | ، و | · · · · / |
| TEACHER ROLE | . (6) | ED033784 ED067202 | ED129535 ED151123 | ED187485 ED198980 | |
| *TEACHER WORKSHOPS | \mathbf{G} | ED180794 | | •_ | / / |
| TEACHER, WORKSHOPS | (3) | ED033862 ED175590 | ED 1769 08 | | |
| #TEACHING | \mathbf{c} | ED0 17377 | | | , |
| *TEACHING GUIDES. | (225) ED035540 ED049517 ED062180 ED067244 ED070680 ED081595 ED092391 ED100667 ED100667 ED100687 ED100687 ED10695 ED103239 ED116910 ED119965 ED116910 ED134449 ED142429 ED148581 ED149988 ED153841 ED157764 | ED062182 ED065345 ED067245 ED967246 ED070681 ED971917 ED081602 ED993634 ED100652 ED100653 ED100668 ED100661 ED100668 ED100669 ED100696 ED100697 ED103250 ED103253 ED108875 ED103253 ED103250 ED103253 ED103250 ED103253 ED103250 ED103253 ED103250 ED103253 ED103250 ED103253 ED133265 ED133227 ED1335649 ED133227 ED135649 ED1335656 ED141116 ED141441 ED142433 ED144794 | ED0673948 ED068337 ED075223 ED082978 ED075223 ED082978 ED082982 ED094912 ED100654 ED100655 ED100669 ED1006691 ED100698 ED104651 ED106390 ED119960 ED119960 ED133229 ED133229 ED137064 ED144824 ED144981 ED144981 ED1449993 ED149993 | ED045380 ED045436 ED061059 ED062122 ED0667241 ED067242 ED068339 ED052468 ED092358 ED092359 ED109656 ED100657 ED100692 ED100665 ED100692 ED100693 ED111664 ED103237 ED111664 ED113237 ED134415 ED134433 ED134415 ED134433 ED134415 ED134433 ED1344983 ED1449983 ED149994 ED149995 | ED048437. ED062176 ED062176 ED06243 ED070588 ED092390 ED100639 ED100666 ED100686 ED100686 ED100684 ED116904 ED119964 ED119964 ED141081 ED141081 ED147188 ED149987 ED152541 ED156480 ED157763 |

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|----------------------------|----------|---|---|--|---|---|---|---|----------------------------------|
| | | ED182135 ED207858 | ED182136 ED207859 | ED182180 | ED200397 | ED207811 | ED207817 | ED207824 | ED207851 |
| TEACHING CUIDES | | (152) ED061118 ED085163 ED093682 ED099191 ED099220 ED100650 ED103234 ED103245 ED107466 ED114269 ED130833 ED149986 ED158304 ED158304 ED175594 ED198018 ED198018 | ED032220 ED063151 ED0687219 ED0997219 ED0999221 ED100674 ED103236 ED103246 ED103246 ED130927 ED149992 ED158303 ED1799803 ED1799803 ED199085 ED199085 ED215921 | ED034676 ED066497 ED0961268 ED099210 EB099229 ED100712 ED103236 ED103236 ED103247 ED107480 ED120045 ED135694 ED157765 ED161727 ED186316 ED210171 ED216927 ED219274 | ED046715 ED0467218 ED0991269 ED099186 ED099213 ED099230 ED101937 ED103240 ED103240 ED103240 ED103240 ED103240 ED103240 ED103240 ED103240 ED1108874 ED120046 ED137100 ED157834 ED162905 ED180809 ED193028 ED211358 ED219234 ED219275 | ED055940 ED068348 ED092374 ED099187 ED099216 ED099231 ED103241 ED103241 ED103241 ED103241 ED103241 ED120048 ED137140 ED157835 ED167449 ED167449 ED18081 ED193029 ED214838 ED219276 | ED059948 ED073032 ED099188 ED09917 ED099232 ED101942 ED103242 ED113148 ED120049 ED141158 ED157836 ED167450 ED167450 ED193030 ED214841 ED219269 ED219269 | ED059950 ED077723 ED099589 ED099218 ED099233 ED101943 ED103245 ED103256 ED120069 ED141178 ED157837 ED167451 ED182766 ED1827661 ED193031 ED214842 ED219270 ED219278 | ED125868 |
| *TEACHING METHODS | | ED219286 | ED063989 | ED134535 | . ≠ ED13453 6 ~ | \ED194597 | ÈĎ (34538 | ED 173062 | ED187629 |
| | • | ED188977 | ED 194440 | ED198980 | ED213164 | D | | | Drig. VE |
| TEACHING METHODS | | (22) ED134526 ED187696 | ED098084. ED150783 ED199120 | ED098096 ED155069 ED260279 | ED098098 ED175590 ED211361 | ED098100 ED179436 ED214841 | ED 102048 ED 179484 ED216927 | ED116947 ED182763 ED219286 | ED128289 ED183456 |
| *TEACHING PROCEDURES | · | (1) · /20 | ED 170 101 | | ., | • | · / | • | |
| TEACHING PROCEDURES | * | (D) | ED 120069 | | | • | <u> </u> | • | |
| TEACHING SKILLS | 1. | (i) | ED038207 | , | | • | - | | |
| TEACHING STATIONS | Ī | (D) | ED 108874 | | | | 1 / | | • |
| *TEACHING TECHNIQUES | • | (6) | ED1,1'1716. | ED113269 | ED125937 | ED135690 | ED135694 | ED 160285 | |
| TEACHING TECHNIQUES | • | (21) ED1 13215 ED123136 | EDŐ39138 ED113216 ED125930 | ED06118 ED116981 ED125938 | ED964196 ED118486 ED128081 | ED093619 ED118526 ED150079 | ED093743 . ED120045 ED152643 | ED 103294 ED 120046 | ED104794 ED120049 |
| *TEAM TEACHING | | (p | ED055940 | • ,. | | | | 28 a. | |
| TEAM TEACHING | , | \mathbf{C} | ED100778 | | | • | | | • • • • |
| TECHNICAL EDUCATION | | (1) | ED177014 | | • | | | | |
| *TECHNOLOGICAL ADVANCEMENT | <i>:</i> | (3) | ED 173163 | ED186282 | ED200414 | | | * . | |
| TECHNOLOGICAL ADVANCEMENT | | (9) ED199116 | ED055940 ED214838 | ED 153923 | ED173158 | ED173159 | ED187557 | ED 190344 | ED197997 |
| *TECHNOLOGY | | (5) | ED 149988 | ED 149 995 | ED 166 9 15 | ED198005 | ED199116 | Sec | |
| TECHNOLOGY | | (30) ED153923 ED170152 ED187554 | ED086473 ED156593 ED173072 ED487555 | ED092437 ED156594 ED173158 ED187557 | ED098098 ED156595 ED173159 ED190644 | ED101943 ED157835 ED173163 ED190346 | ED113214 ED157837 ED174407 ED199114 | ED149985 ED170141 ED176957 ED200414 | ED149992 ED170151 ED177014 |
| ERIC 323 | | O T | E0103238 | | | 4 | | | 324 |

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|---|----------------------------------|----------------------|-----------|--|----------|----------|-----------|---------------|
| TESTING *TEST REVIEWS | (1) (1) | ED080361 ED146084 | | • | | • | | |
| TESTS | · (I) · | ED146084 | | | - | • | . , | |
| *TEXAS | (4) | ED166032 | | ED183297 | ED218154 | | , | |
| TEXAS EDUCATION AGENCY | (2) | ED144786 | ED144787 | · | | . , | | |
| TEXAS (HARRIS COUNTY) | (i) | ED165991 | | | • | | | • |
| *TEXTBOOKS> | (1) | ED06 106 i | • | | | | | |
| TEXTBOOKS . | (3) | ED147222 | ED147223 | ED147224 | | • • | | , |
| THAILAND | TO . | ED051011 | | | ٠. | - | • <u></u> | <u></u> |
| THEMATIC APPROACH | (5) | ED059926 | ED09 1269 | ED201422 | ED201423 | ED201424 | | |
| THERMAL ENVIRONMENT', | (I) | ED055806 | | | | • | . ' | , , |
| THERMOSTATS. | $^{\circ}$ $^{\circ}$ $^{\circ}$ | ED219276 | • | • | , | | • | |
| THOUGHT PROCESSES | , co | ED128081 | | | • | | | |
| TIDES | (1) | ED141175 | | | | | | |
| TITLE 191 | (1) | ED100652 | | | | | | |
| TITLE 3 | · co | ED028086 | * - | | | | ; | • |
| TOPOGRAPHIC MAPS | (,1) | ED210172 | | | • | | | ge we f |
| тороспарну | (i) | ED210172 | | | | • | | • |
| TRAD ITIONAL, SCHOOLS | (n) | ED176908 | | , . | | | | • |
| TRAFFIC RECULATIONS | (\$) | ED147581 | ED147582 | ED147590 | | | | · .: |
| TRAFFIC SAFETY | (2) | ED147581 | ED147582 | | | , | | • |
| TRAFFIC SAFETY | . (2) | ED147589 | ED147590 | • , `. | . • • | , | | • |
| TRAFFIC SIGNS | (2) | ED147581 | ED 147582 | | 1 | | • | |
| *TRAILS \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | (2) | ED 108875 | ED174364 | | | | - | |
| TRAILS | (4) | ED041767 | ED071917 | ED009899 | ED141953 | | • , | - 1 |
| *TRANSECT STUDIES | (1) | EĎ1 0 3253 | | ^ دُ • . • | • | <i></i> | | - |
| *TRANSPORTATION | (8) ED2 027 26 | ED146084 | ED147581 | ED147582 | ED147589 | ED147590 | ED167402 | ED18486) |
| TRANSPORTATION | (8) ED175592 | ED051012 | ED120053 | ED141142 | ED156593 | ED156594 | ED 156595 | ED167312 |
| тнгея | ΄ ω ' | ED204105 | | | | ••• | . , | • |
| Tiu | (D) | ED211361 | | | | ٠. ٠ | | |
| *TREND ANALYSIS | CO C | ED 171597 | عدالم | ing the second s | • | - | | 326 |
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| . / | • | . • | 1 | ۷ ٪ | | | |
|--|--|--|--|--|---|--|--|
| - (f) | ED147216 ED175723 | ED147223 | ED156593 | ED164417 | • | • | |
| , CD | ED147223 | ~ · · · | | | | | <u>ş:</u> |
| (3) | ED091268 | ED134526 | ED157818 | | | • | |
| (7) | ED12165 | ED153844 | ED156593 | ED156594 | ED187555 | ED198013 | ED2 12519 |
| (-2) | ED068348 | ED164414 | , | == | • | • | - |
| (9) ED194639 | ED059901 ED153846 | ED081601. | ED091269 | ED092377 | ED092378 | E0092379 | ED100639 |
| (9) ED207858 | ED141175 ED207859 | ED 155069 | ED 1769 10 | ED178231 | ED179436 | ED183297 | ED199 120 |
| (41) ED141162 ED176909 ED198017 ED219269 ED219277 | ED 139671 ED 153819 ED 176957 ED 198018 ED 219270 ED 219287 | ED 14 1081 ED 153820 ED 178232 ED 199 146 ED 2 19271 | ED141142 ED158906 ED179795 ED199175 ED219272 | ED141145 ED162885 ED179980 ED216081 ED219273 | ED141157 ED166032, ED186315 ED216906 ED219274 | ED141158 ED174435 ED186316 ED219234 ED219275 | ED141159 ED174436 ED194440 ED219268 ED219276 |
| (21) ED133210 ED133219 | ED 128 185 ED 1332 11, ED 133220 | ED 1320 11 ED 1332 12 ED 133224 | ÈD 133 150 ED 1332 13 ED 133226 | ED 133151 ED 183214 ED 133228 | EB133207 EB133215 ED133230 | ED133208 ED133216 | ED133209 ED 183217 |
| (33) ED067245 ED092358 ED100650 ED133218 | ED059085 ED067246 ED093633 ED101987 ED133231 | ED062176 ED068368 "ED093634 ED101941 | ED062180 ED070680 ED097219 ED101942 | ED067241 ED070681 EB097221 ED101943 | ED067242 ED075223 ED099191 ED101944 | E0067243 E0079100 E0099192 ED101945 | ED067244 ED087688 ED099213 ED133144 |
| \mathbf{G} | ED087688 | | | | | 1. | , , . |
| ab A | ED094948 | . * | | • | • | | |
| (6) | ED 165970 | ED 165973 | ED165974 | ED:65975 | ED165976 | ED165977 | |
| (D) | ED165972 | | | | 3 . | | یاف معرام |
| (3) | ED142489 | ED171807 | ED175726 | •••• | <i>:.</i> | | • |
| (7) | -ED066407 | ED134415 | | ED164341 | Pří 17 1478 | ED176908 | . FN10941A |
| - /(3) | ED066407 | ED121653 | ED195544 | 120103041 | 130111310 | . EDIO ON OR | |
| (2) | ED064187 | ED987688 | ED170044 | ·· • • • • | | , , | |
| (12) ED184861 | ED033844 ED184862 | ED103240 | ED191743 | ED164341 ED196577 | Ep 17 1807 | ED176908 | ED 184860 |
| | | ED183321 | EQ18485 | ED184863 | ED.184864 | ED184865 | · · · · · · / |
| (20) ED10746B ED183321 | ED045350 ED114269 ED184862 | ED070615 ED 21653 ED 184865 | ED099240 ED157764 ED187579 | ED106054 ED164341 | ED106055 ED166301 | ED 106057' ED 175726 | ED107466 ED179415 |
| (19) ED 1060B7 ED213580 | | ED955015 ED125933 ED213582 | | ED064187 ED142489 | ED066407 ED184861 | ED087688 ED184863 | ED 0 92377 ED184864 |
| | V-1 | | | | | | 328 / |

URBAN EDUCATION *URBAN' ENVIRONMENT URBAN ENVIRONMENT

TREND ANALYSIS UNDERGRADUATE STUDY

*UNITED STATES HISTORY. UNITED STATES HISTORY

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| *URBANIZATION URBANIZATION | | (2) · (6) | ED066407 ED055018 | ED216081 ED964187 | ÈD086473. | ED153844 | ED160528 | ED171597 | |
|-------------------------------|--------------------------|------------------------------------|-----------------------|----------------------|---------------------------|--|---------------------------------|--------------------------------------|--------------------------|
| URBAN LIFE POPULATION. | EDUCATION INSTITUT | E (1) | ED120044 | | | | / : " | , siden | |
| ≉urban mississippi rive | er, éco center | , có , | ED096085 | | • | , | / | | |
| >URBAN PLANNING . | No | (8) | ED175726 | ED184861 | ED184866 | . 7 | , | • | |
| *URBAN PROBLEMS | | (5), | ED179415 | ED184863 | ED184864 | ED212460 | ED212461 | | , |
| *Urban Schools | | · (1) | ED182110 | | | | | | ٠. |
| urban schools | | (2) | ED180757 | ED193410 | | - 4/ | 1 | | |
| URBAN SLUMS | | (1) | ED064187 | , | • • | · / / | 1 . | • • • | |
| *UNDAN STUDIES | and the second | (12) ED120048 | ED051012, ED132011 | ED055018 ED137140 | ED061126 ED171475 | ED064187 ED175726 | ED066407 | ED081601 | ED 0 87688 |
| URBAN STUDIES | , · | (5) | ED 120044 | ED124450 | ĖQ142489 | ED164341 | ED174484 | ,. | |
| *UTAH | · · | (n) , " | " ED216828 | • | | * . | * - | | |
| UTAH (ESCALANTE) | | œ. | ED2 16828 | | | 2) | | • | * |
| **UTILITIES | 4 | (2) | ED218160 | EĎ2,19272 | | | · · | | • |
| UTILITIES | | (2) | ED186281 | ED212459 | | 1 | ٠ | | |
| VALIDATED PROGRAMS | · ********** | (6)∜" | ED169256 | ED169563 | ED169564 | ED173057 | ED173115 | ED1731175 | لار - الا |
| VALUE CLARIFICATION ST | TRATECIES | (4) | ED106087 | | | | | | |
| *VALUES . | | (16) | ED055018 | ED091268 | ED093743 | ED 100777 | ED106087 | ED121654 | |
| 3 | | ED 125883 ED 182118 | EB125937 | ED134448 | ED134449 | ED141694 | ED149984 | ED174407 | ED174436 |
| VALUES . | ă. | (37) | ED051011 | ED055864 | ED058127 | ED073032 | ED091269 | | ED099190 |
| | •. •.4 | ED099213 ED146048 | ED149979 | ED121565 ED149980 | ED121655 ED149983 | ED128289 ED149985 | ³ ED14998 9 # | ED144826/* ED149990 | ED149992 |
| | St. According | ED149993 ED204182 | ED149995 ED204183 | ED157681 ED204184 | ED164192 ED204185 | ED165970 ED204186 | ED170151 ED214752 | ED170152 | ED200424 |
| *VALUES CLARIFICATION | | m (4) | ED199092 | Arrest. | • | | 2 | 1. 1 | , • |
| VALUES CLARIFICATION | e vite | $\mathbf{\omega}^{\mathbb{S}^2}$. | ED200414 | • | · *** | A Comment of the Comm | | ************************************ | <u></u> ` |
| *values education | | (2) | ED051011 | ED051012 | | Name . | | | |
| VALUES EDUCATION , | | to - | . ED055018 | - | | THE PARTY | | * | • |
| *VEHICULAR TRAFFIC | | (3) | ED147582 | ED147589- | ED147590 | | | | |
| VEHICULAR TRAFFIC | The second of the second | \mathbf{c} | ED147581 | | | | 4 | | |
| VERBAL COMMUNICATION | | (1) | ED183456 | | ر ماه است. محمود شاهده | | | 'ey' | e a grande de la company |
| VERMIN | | co · | ED106057 | | | | | | |
| *VERMONT | | (2) | ED116946 | ED174371 | | | | | |
| WYCHAI, AIDS 200 | | (2) | ED086500 | ED157773 | | | | 3 | 30 |
| ERIC 329 | | | | | | | | rau. Part | |
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| . /. | i j. | • | | • | 7. | | | |
|---|---|--|----------------------|----------------------------------|---|--|--------------------------|--|
| | $\mathbf{B} = \int_{\mathbb{R}^{n}} \mathbf{B}$ | ED087576 ED184875 | • | , | | · · · · · | | , |
| | (1) J | ED089899 | } | | / | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | | |
| / - A | $\mathbf{co} = f$ | ED134408 | | i v | | · / | | |
| | \mathbf{co} / \mathbf{c} | ED215926 | | , | | | 1 | ŧ |
| <i>,</i> , | (2) ½ | ED165973 | ED175592 | | /. | | | |
| | (2) | ED141141 | ED181417 | `./ | · . | , | | |
| | (6) | ED149843 | ED157662 | ED160284 | ED167454 | ED175593 | ED205346 | |
| ·/ · · · | (A) | ĖD206469 | ` | , | | • | | \$ |
| , | (1) | ED193053 | • | | | - | | , |
| | (2) | ED100659 | ED187875 | , | ٠,٠ | , | ` | |
| . / | (3) | ED179395 | ED179421 | ED219278 | | | . 54 | ` ` |
| · . · · / | (1) | ED197924 | | | • | • | -, | • 1 |
| · . /. | (10) ED196724 | ED098096 ED196725 | | ED098100 | ED156481 | ED156483 | ED157773 | ED191749 |
| | (13) ED174407 | ED103196 ED180826 | | ED15648 0 ED184864 | ED156482 ED168008 | ED156484 ED188919 | ED156485 | ED156486 |
| | (5) | ED080348 | ED103196 | ED196724 | ED196725 , | EB218094 | 1 | |
| , | (5) | ED092378 | ED133228 | ED133229 | ED184864 | ED219287 | | |
| | (9) ED202724 | ED175723 ED212459 | ED178350 | ED 190360 | ED190361 | ED191697 | ED191698 | ED196702 |
| · * * * * * * * * * * * * * * * * * * * | (6) | ED176960 | ED180813 | ED180832 | ED183368 | ED188008 | ED212458 | · · · · · · · · · · · · · · · · · · · |
| | .(6) (| ED06 1058 | ED070615 | ED093648 | ED104651 | ED156484 | ED157758 | ٠,. |
| | (15) ED 156483 | ED073032 ED156485 | ED086473 ED156486 | ED086482 ED157834 | ED092378 ED170139 | | ED137064 ED174407 | ED149965 ED174435 |
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| See Land | ED156484 | ED045380 ED133226 ED156485 ED201422 | | | ED070681 ED138461 ED173062 | ED079100 ED150026 ED180808 ED202963 | ED154986 ED180809 | ED121566 ED156483 ED190400 ED210171 |
| er y Kjala i N | ED2 (1375 | ED211377 | ED212458 | ED212459 | ED218160 | -W-VE 700 | EUZUIGU | . 7 27 |
| *** | ED128289* | ED130462 | ED061058 ED149964 | ED149965 | ED092379 ED156594 | | ED104651 _ ED174365 _ | ED 120053 ED 174366 |
| | ED174368 ED180813 ED211376 | ED18336B | ED174435 ED183374 | | ED175593/ ED205395 | ED175594 ED206469 | ED175723* ED210172 | |
| | (1) | ED 10747 1 | | | | | | |
| | (1) | ED204084 | | و و المراور : | • | | | |

ERIC

WATERSHEDS WATER SPORTS

VISUAL AIDS *VISUAL INPAIRMENTS

*VISUALLY HANDICAPPED VISUAL PERCEPTION

*VOCABULARY DEVELOPMENT
VOCABULARY DEVELOPMENT

*VOCABULARY SKILLS
VOCABULARY SKILLS
*VOCATIONAL EDUCATION
VOCATIONAL EDUCATION

*VISUAL LEARNING

VOCABULARY

*WALKABOUT

*Wastes

*WASTE DISPOSAL

WASTE DISPOSAL

*WATER POLLUTION

WATER POLLUTION

WATER QUALITY
*WATER RESOURCES

WATER RESOURCES

*WATER POLLUTION CONTROL WATER POLLUTION CONTROL

332

| | *\ . | | | | | , | | , <u> </u> |
|--|-------------------|----------------------|----------------------|---|----------|------------|------------|-------------|
| WAVES *WEATHER | B | ED198011 ED103249 | | , | ٠. | | ۰ - ۲۰۰۰ | ** |
| WEATHER | (2) | ED212460 | ED212461 | _ | | | • • | |
| *WETLANDS | (2) | ED133219 | ED133220 | • | | ٠. ٠ | , | • |
| WILDERNESS EDUCATION PROGRAMS | (1) | ED197924 | 1. | £ . " . | Jan. | • | • . | • |
| SWILDLIFE | _ (3: | -ED196728 | ED199085 | ED218154 | <u> </u> | <u> </u> | <u></u> | |
| WILDLIFE | (4) | ED100712 | ED193055 | ED20 1424 | ED205395 | , , | | |
| WILDLIFE EDUCATION | (D | ED162897 | | | | | | |
| #WILDLIFE MANAGEMENT | (10) ED179411 | ED133230 ED179416 | ED133231 ED201424 | ED156478 | ED162897 | ED162905 | ED170138 | ED175724 |
| WILDLIFE MANAGEMENT | (8) ED191747 | ED092379 | ED108876 | ED157834 | ED173082 | ED183363 | ED183368 | ED163416 |
| WIND ENERGY | (1) | ED216907 | , | , | | | • | |
| *WIND (METEOROLOGY) | Ġ), | ED216907 | - | * | • | ***** | | - |
| HINTER | \mathbf{c} | ED128081 | • ' | • | • • | | н • , | |
| *Winter games | (D) | ED167311 | , , | • | • | | , | |
| MISCONSIN | CD 🛴 | ED125883 | <i>`</i> , | * | | | • | |
| WOMENS EDUCATION | CD. | ED179484 | ,• - | • . | • . | | , • • | - i |
| WORD, LISTS | (i) | ED167454 | | • | | • | • | <u>,</u> 5. |
| **WORKBOOKS | (1) ² | ED187579 | - | 1 | • | | | • |
| WORKBOOKS | (4) | ED053945 | ED198461 | ED146084 | ED175598 | | ٠,, | |
| *WORK EXPERIENCE PROGRAMS | (1) | ED197924 | | , · · · · · · · · · · · · · · · · · · · | | . *- | . ,- | |
| *WORKSHEETS | (2) | ED164192 | ED183321 | | · | | • | |
| WORKSHEETS | (10) ED179353 | ED092377 ED179355 | ED092378 ED190362 | ED092379 | ED176910 | ED178231 | ED179351 | ED179352 |
| WORKSHOPS | (2) | ED175592 | ED 180794 | | | | | |
| WORK STUDY PROGRAMS | (D.) | ED187485 | |) , | | | * | |
| *WORLD AFFAIRS | (2) | | ED212411 |) · · · | . } . | , . | | |
| WORLD AFFAIRS | (6) | ED113269 | | ED155069 | ED159106 | ED209125 | ED2 125 19 | 7.5 |
| *WORLD CEOCRAPHY | <u>(3)</u> | ED103294 | ED118486 | | | are will a | | |
| WORLD GEOGRAPHY | (3) | ED088722 | ED 130927 | | 1 | ` *, | | |
| *WORLD HISTORY | CD CD | ED100674 | | | | | · | , |
| WORLD HISTORY | CD | ED212519 | | | (| | | |
| PROBLEMS | (10) | ED113269 | ED116981 | ED120054 | ED153923 | ED162885 | ED179436 | ED183456 |
| ERIC 333 | | | | | | | | 23 |
| The state of the s | ent of all a real | | | | | | | |

١.

ð

AUTHOR INDEX

NOTE: Documents are listed by ED number in the Table of Contents. The page on which the abstract can be located is listed.

| · | | ** | | | |
|--------------------|--|-----------------|--|--|---|
| | CATHY 174 484 | | ED 133 229 | BEER, DIANA DARNALL ED 118 486 | BOCK. JUDITH / ED 215 926 / |
| ED | . GLEO 157 763 | | AWKERMAN, GARY L. ED 086 552 ED 086 553 | BELL, ELLEN ED 184 861 | BONAR, JOHN R./, ED. |
| ABBOTT ED ED | , VERLIN M. 099 213 100 649 100 656 | | AWKERMAN, GARY L. ED 086 552 ED 096 553 ED 096 554 ED 086 555 ED 026 556 ED 086 557 | ED 184 866 BEMISS, CLAIR W. ED 067 304 | ED 190 362 ED 190 362 ED 190 363 |
| | 100 656 M30N, CLORIA | | AYER. ROBERT ED 193 047 | ED 068 339 BENEDICT, DEBORAH | BORAD, DRUCK! ED 073 032 |
| ADAMS, | 080 291 DIANE . | | AYERS, JERRY B. ED. ED 202 729 | * ED 134 434 | BOTTINELLI/ CHARLES A. ED 191/745 |
| ALBERT | , HAROLD E. 1 | | BABCOCK. WILLIAM ED 204 084 | ED 209 125 BENJAMIN, FELICE ED 120 068 | ED 191/745 BOTTINELL, CHARLES A. ED. ED 194 817 |
| ALEXAN | 166 050 Der. Mi chel e | Y ED. | BACKMAN, JUDI ED 103 144 | BENNETT. DEAN B | BOULES , ALLEN. ED. |
| ALLEN. | 130 833 Rodñey F. 121 \$53 | | BACNALL. NORMA ED 182 763 | ED 067 233 BENNETT, DEAN B. | ED 205 346 BOWNAN. MARY LYNNE |
| . ED . EU | 121 654 121 655 121 656 | , , | BACRALLA NORMA ED 182 763 BAKER, THOMAS M. ED 123 034 BAKKE, RUTH ED 146 044 | ED 121 565 ED 121 566 ED 121 567 ED 121 568 ED 175 723 | ED 137 140 ED 152 541 ED 173 072 |
| ED ED | ** | • | BAKKE, RUTH ED 146 044 ED 146 048 | ED 175 723 BENSE, BEVERLY | ED 182 118 ED 214 752 |
| ED ED | RODNEY F E 105-213 125-201 | D. | BALDI. MARY LOU ' ED: 156 529 ED: 150 530 | BENSE. BEVERLY ED 174 432 BENSON. DELWIN E. | BOWMAN. MARY LYNNE. COMP. ED 159 075 ED 196 704 |
| · ED | 199 096- 201 523 207 818 | | ED 156 531 ED 156 532 | ED 170 180 BEREZOWSKI. P. E. | BOYER, ROBERT E. ED 063 111 |
| ALLĖII, Ed | VIRSINIA 190 348 | * • | BANKS. DOROTHY E. ED 196 577 | ED 167 312 BERKHEIMER. CLENN D. ED 190 346 | BRAINARD. LYNH ED 157 766 |
| ALSBRO ED | 0KS, ANN 170 139 | | BARKER, WELLS J. ED 211 365 | BERKHEITER. WENDY ED 190 344 | BRANDT. SANDY. ED. ED 157 757 |
| | 132 011 | 4. | BARNHART, WILLIAM M. ED 028 086 | BERKOWITZ, CISHA. ED. ED 107, 466 | BRANDWEIH. PAUL F. ED 064 196 |
| . Eli | ON. PAT 056 874 | | BARR. NAMCY ED 206 466 | BERNSTEIN, LEONARD, E | |
| Es) | LD, DAVID. ED 042 607 JOHN E. | ' • ∃ | BARRETT JUHRLLE P. ED 215 923 BARTLEY. II. E. | ED 182 110 BIGLAN, BARGARA ED 184 659 EB 184 863 | BRAUN. L'UDWIC ED 179 411 ED 179 414 |
| · ED | CE, COLLEEN | | ED 071 836 BEAKLEY. JOHN C. | ED 184 864 ED 184 865 | BRAYTON. PATY ED 169 256 |
| EB | 182 184 RF. VAL | | ED 046-715 | BILL, ERWIR ED 125 925 | Brennan. Ma'i Thew J. Ed 193/662 Ed 193/663 |
| Er | 039 138 Lynne _ | | ED 154 999 BEDWELL, LANCE. ED. | - Bloch. Lehore ED 103 845 ED 153 846 | BRICGS. JOHN |
| ERIC | 133 228 * 3 | 138 | ED 125, 888 | BEST COPY-AVAILABLE | 339 |
| ٠. | <u> </u> | | 200 3 18 x 24 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | A transition of the same of the same of | <u> </u> |

1.79

BRICHT, KEITH L. ED 125 928 BROCK, PHYLLIS ED 153 841 ED 153 642 SEROOKS, BARBARA J. ED 202 940 TROSIUS, CRAIC A. ED 170 141 BROUN, EVELYN ED 167 401 ED 179 374 DROWN, JERRY L. ` ED 066 3**6**6 DROWN, JUDY PALMER - ED 187 875 EROWN. MARK , ED 175 726 BROWN, ROBERT T., ED. ED 103 890 -BROWN, WILLIAM E. ED 116 947 . . RYANT, C. DOUCLAS ED 103 874 BUCHANAH, JOHN ED 055 940 DUDDE. DUANE ED 063 162 SULLOCK, RODGER ED 171 456 BURCESS, ROBERT A. E) 033 222 ED 033 224 ED 175 590 BURGESS, ROBERT A., COMP. ED 033 223 ED 175 591 DURESART, PHIL. Busch, Phyllists. ED 033 220 ED 039 844 ED 033 676 ED 635 540 jonn w. RIC 211 378 340.

ED 211 374 ED 211 375 ED 211 376 ED 211 377 BYRNE, ROBERT ED 183 416 ED 199 085 CALDWELL, JOHN ED 190 346 CALDWELL, NADINE. ED 216 906 CALLACHAN, SARA 8. ED 138 461 ED 138 462 CALLAHAH, MIRIAM THOMAS ED 136 451 at CAMP, JANET ED 128 081 CAMPBELL, BRUCE . ED 104 794 CAMPBELL, SALLY R. ED 188 860 CANIPE, STEPHEN ED 219 244. CANIPE, STEPBEN L. 12 ED 101 417 ED 218 162 ED 219 267 CANTRELL, JOSEPH 9. ED 183 392 CAREY, HELEN H., ED. ED 189.794 CARPENTER, JAMES C. ED 195 399 CARSON, S. MCB. ED 070 635 CARTER, LEE ED 182 -137 ... CATLIN, RICHARD ED 050 940-CAWLEY, REBECCA E. ED 111 663 CHAPMAN, K. WAYNE, COMP. ED 15? 666

CHAVE, E. II. ED 170 153 CHILDRESS, RONALD B. ED 073 923 CHILDS: DARBARA ED 153 843 ED 153 844 CISSELL, CHARLES A. ED 053 649 CLARK, A. REFS ED 125 933 CLARK. BARBARA C., ED. ED - 108 890 CLARK, LEON E. ED 147 216 CLARK, RICHAND C., ED. ED 207 858 ED 207 859 CLIMER, ROBERT'R. ED 086 522 CLINARD, LIL ED 167 413 COCHRAN, CAROLINE S. ED 120 044 COHAN, MARK E. 3 ED 110 396 COLAGRANDE, JOHN ED 133 226 ED 133 227 COLLINS. II. THOMAS ED 215 939 COLLINS, MANCY ED 167 413 CONNER, SHIRLEY, . ED 180 808 CONOVER, MARIE ANN ED 179-794 zicoon. Herbert L. ED 091 172 LD 125 868 ED 107 140 ED 141 178 ED 150 026 ED 173 672 COON; HERBERT L., COMP. ED 159 675

COON, HERBERT L., ED. ED 102, 031 ED 180 833 -COOPER, HARILYN . ED 085 248 ED 086 507 COPEN. PETER ED 197 924 CORNELL, JOSEPH BHARAT ED 498 980 CORSO, IMPRIES COURRECES, EUGENIE ED 157-764 COWAL, MICHAEL ED 211 358 COWAH, ELIZABETH, COMP. ED 200 418 COX, DAVID C. ED 070 615 COX, DOROTHY A. ED 199 092 CRÌDER, TOM, ED. CRIPE, JULIE, ED. . ED 105 648 CRIPPEN, BETCY ED 100 778 CRUMP, CLAUDIA ED 093 743 CURTIS, HUCH ED 144 824 , ED 144 825 CYDRINSKY, ROMAN A. ED 125 983 DALTON, ED ED. 167 454. DAVEY, DON . ED 166 Ø16 DAVIS, DEBBIE ED 156 463 · DAY, JOHN

ED 179 375

| DE LA SOTA, ANN ED 134 535 | ERICKSON, SUSAN ED 200 381 | FLICK, GEORGE J ED 168 824 | ED 179 415 |
|--|--|---|--|
| DECKER, EUGENE ED 176 905 | ERIKSEN, AASE ED 114 269 | FLINT, WILLIAM ED 059 901 | FULTON, WILLIAM L., ED. \ ED 106 095 |
| - REEH. ROBERT - ED 176 911 | EUSTON, CAROL ED 114 268 | FLOWERS, JOHN D. ED 196 762 | CAIL, PETER A. ED 104 651 |
| -DEMARAY, BRYAN ED 150 783 | | FLOYD, SUSAN ED 050 948 | CALLACHER, JAMES JOSEPH, ED. ED 161 754 ED 180 774 |
| Denshore, ton, comp. ED 178 232 | EVERT, - HICHAEL T. ED 605 249 | FORTNER, ROSAUNE ED 202 717 | CAMMISCH, SUSAN C. ED 167 393 |
| 71CKHAH, DOHNA NCCORD AND 201 508 ED 201 609 | EZERSKY, EUGENE M. ED 195 544 | ED 202 719 ED 202 727 FORTNER, ROSANNE W. | CARBARINO, JAMES. |
| ED 201 510 DISINCER, JOHN F. | PAGAN, JAMES S. ED 146 084 | ED 179 356 | GARLASCO, CHAIS) ED 133 216 |
| ED 152 541 | FAGERSTROM, RICHARD A. ED 073 032 | FOSTER, ALBERT B. ED 067 218 | GARRETT, ANNE C. ED 124 400 |
| TOONALDSON, GEORGE W. ED 151 123 DONALDSON, GEORGE W., COMP. | FAIRWELL, KAY, ED. | FOSTER, ALLAN ED 201 422 ED 201 423 | GERLOVICH, JACK A. ED 160 418 |
| ED 667 202 | ED 174 365 ED 174 366 ED 174 367 | FOWLER, JOHN W. | G1ESE, RONALD N. ED 167 421 ED 174 442 |
| ED 184 852 | FARNSWORTH, CAROLYN ED 179 355 | FOWLER, KATHRYN MERVINE | CHEFILLAN, WARREN C. |
| DOUGLAS RANDI ED 170 896 | FAULKNER, BRENDA F. ED 061 126 | ED 160 528 ED 176 984 | ED 638 222 ED 638 224 ED 175 590- |
| ED 184 817 | FERNALD, EDWARD A. ED 125 931 | | ND 175 592. ED 175 693 ED 175 594 |
| DOWD. 'PATRICIA ED 164 341 | FERREIRA, ROSEMARY C. | FOX, CARLA ED 167 305 | CILFILENC, WANTEN C., COMP. ED 636 223 ED 175 691 |
| | FIELDER, ERICA ED-123 321 | | CILLESPIE, MOITH A. |
| DUNBAR, ARTICE ED 062 122 | FINKELSTEIN, RODERT J. | FRANKENBERG, DIRK ED 198 010 ED 198 011 | ED 120 008 . ED 120 06 . ED 167 355 |
| ED G93 743 | FINN, PETER ED 147 589 | FRASER, KATHRYN M. | ED 173 635 |
| EDCAR, LINDA ED 193 151 | ED 147 590 | ED 195 399 | CODFREY, PAUL J. ED 061 060 |
| EDWARDS, VILLIAM C. ED 099 214 | FITZSIMIENS MICHARI. | FRIEDLAUD. MARIES | CORE, PATRICK D. ED 214 841 |
| EK, GEORGE 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 | ED 205 420 | ED 129 4112 ED 179 4127 ED 179 414 | GRAHAM, DUNCAN ED 103 294 |
| ERNIN. BETTY | FLEETWOOD, GRORGE R. ED 049 917 | ED 179 416 % | CRAHAM, PHYLLIS |
| ERIC 342 | ED 649 917 FLEISHMAN, MICHAEL ED 142 499 | FRISHMAN: AUGISTA ED 179 412 | CREEN, DAN 216 343 |
| And the dependent by ETC | | BEST COPY AVAILABLE | |

| | | | , |
|------------------------------------|---|--|--|
| GREEN. NORVA ED 153 302 | ED 190 361 ED 190 362 ED 190 363 HAUPT. ARTHUR ED 171 597 HAWKE, SHARRYL ED 0U7 688 HAYES. JONATHAN ED 176 911 HEAL. FRED A. ED 668 366 HEALY. HARY K. ED 113 143 HEITZMAN. WILLIAM RAY ED 164 414 HELFRICH. CARL ED 099 210 HELMICK. ROBERT ED 193 648 HELRICH. JAME | HOFFMAN. LOU ED 156 578 | ED '139 671 / |
| CREEN, RACHEL E. | HAUPT. ARTHUR | HOLTGRIEVE. DONALD G. ED 138 527 | ED 164 794 |
| ED 180 809 GROSS FRANKLIN | ED 171 597 | HON. WILL | JANTZEN. PAUL C. ED 174 431 |
| ED 068 337 | ED 007 688 | ED 061 059 ED 061 060 | JEDLICKA, ELLA, ED. ED 180 826 |
| ED 063 351 | ED 176 911 | BOOD, LOIS ED 149 594 | JENNINGS, FREDERICK ED 180 814 |
| GUSTAFSON. NEIL C. ED 110 396 | HEAL. FRED A. " ED 668 366 | HOOVER, HORMAN K. | ED 183 363 JOHNSON, DETTE |
| CUTIERREZ. ROBERT ED 118 526 | HEALY, HARY K. ED 113 143 | HOPPE, CATHERINE C. | ED 153 859 ED 182 169 |
| HAAKONSZH. HARRY O., ED. | HEITZMAN. WILLIAM RAY ED 164 414 | Hörson, Dan | JOHNSON, JACQUELYN ED 209 123 |
| ED 133 210 | HELFRICH, CARL ED 099 210 | HORSLEY, KATHRYN | JOHNSON / LETITIA K. ED 166 301 |
| ED 174 479 | HELMICK, ROBERT ED 193 048 | HUCK, ALBERT R. | JOHNSON, PATRICIA ED 184 785 |
| ED 175 728 ED 175 729 | HELMICK. ROBERT ED 193 048 HELRICH. JANE ED 036 483 HENDREN, TRAVIS E. ED 108 874 ED 108 875 ED 108 876 HERNBRODE. WILLIAM R., ED. ED 162 897 HERSHEY, JOHN T. ED 045 380 | HUCK, ALBERT R. ED 176 905 HUMER. BANDARA ED 179 792 | JONES, HEATHER ED 171 456 |
| ED 175 780 HALSEY, CLAFTON F. | HENDREN, TRAVIS E. | ED 179 792 HUNGERFORD, NANCY, ED | Jones, John, ed. |
| ED 694 943 | ED 108 875 ED 108 876 | ED 170 151 ED 170 152 | ED 166 010 ED 166 011 FD 166 012 |
| ED 062 182 | HERNBRODE, WILLIAM R., ED. ED 162 897 | HUNT. JOHN D., ED. ED 194 306 | ED 166 013 • ED 166 015 |
| EB 145 845 | ED 162 897 HERSHEY, JOHN T. ED 045 380 ED 093 619 ED 154 986 ** HERSHEY, JOHN T., ED. | HUNT, PETE ED 182 132 | JONES. MICHAEL |
| NN 157 768 | ED 093 019 | HURST, BONALD L. ED 164 192 | JONES, ORVILLE E. ED. |
| IANDLER, PAUL ED 112 269 | MERSHEY, JOHN T., ED. ED 689 348 ED 639 349 | HYLAND. BARB , ED 086 500 ED 160 639 | ED 171 466 JONES, SAN P. |
| HAHDY, ROBERTA M. ED 183 857 | HERSHEY. JOHN T., ED. ED 089 348 ED 630 349 ED 603 361 ED 003 004 ED 003 643 ED 103 196 ED 149 964 | ED 160 639 | JUNGBLOM, EDWIN N. |
| HANEY. RICHARD E ED. ED 207 851 | ED 103 196 ED 149 964 | ED 189 833 | ED 102 048 |
| BARGIS, ELIZABETH ED-212 494 | HETHERINGTON, MARTIN | JACKCAND, TRIOMAS ED 093 599 | JUNGLAS. HARY R. ED 099 229 ED 099 260 |
| HARRIS. BUCK | ED 190 348 ED 190 350 | JACOBS, JOEL ROBERT, ED. ED 068 368 | ED 099 231 ED 099 232 ED 099 233 |
| HARRIS. JEAN. COMP | HIGDEM, MARY ED 182-135 | JACOBS, MARY LYNN, ED. ED 219 281 | KANE. THOMAS T. ED 171 597 |
| JAMES A. ED. | HILLIÉR. BUIGHT ED 059 949 | JAMASON, BARRY W. ED 093 673 ED 101 959 | KEACH, EVENETT T., JR. 3 |
| ERIC 190 360 | DEST-CODY AVAILABLE | | O. |

| KEITH, JUDY, COMP, ED 157 762 | KOHUTH, BARBARA J. ED 141 081 | ED 699 215 ED 189 632 | LONG. CATHRYN J. ED. ED 135 690 ED 135 694 |
|--|--|---|--|
| ED 205 895 | KORPORAAL, ARIE R., ED. ED 157 662 | LASALLE, BONALD P., ED. ED 194 353 | LONG. DAVID C. ED 189 813 |
| CELSEY, CLAUDIA ED 206 467 | KOSKI, CAROL ED 206 465 | LATHROP DAVID M. ED 176 909 | LONGE, KAREN M. ED 216 907 |
| KEMP, PETER, COMP. , ED 176 910 | KOZAK. BETTY ANN ED 124 450 | LAWS, KEVIH ED 156 593 ED 156 594 | LORAIN, SUE ED 193 144 |
| TENNEDY, BETH A. ED 179 352 ED 179 853 | KROLL, CLAUDIA J. ED 068 348 | ED 156 595 LAWSON, JAME | LUNDGREH, LAURIE L. ED 659 947 |
| ⇒ED 179 356 KENNEDY. DAVE | KRUKOWSKI, PAT. ED. ED 194 352 | ED 147 501 ED 147 582 | LUNDSTROM, DONALD ED 063 989 |
| ED 039 993 EEROACK, ELIZABETH CARROS | LA MANTIA, LAURA ED 209 061 | LAY, GARY A. ED. ED 179 395 | MAC ONIE, ELEANOR ED 148 581 |
| ED 179 980 | LAHART, DAVID EL ED 187 557 | LAZARUS, STUART ED 120 068 ED 120 069 | HACCOWN, RICHARD H: |
| ED 035 436 King, david c. | LAHART, DAVID EED. ED 092 374 | LEE, LEGOY | ED 067 233 ** MACLAGAN, ROBERT |
| ER 134 535 ED 134 536 ED 134 537 | LAMB, WILLIAM G. ED 093 682 | LEE. TUNNEY ED 034 104 | ED 082 982 Maier, Joseph T. |
| ED 184 538 KING, DAVID C. ED. | LAMBERT, JACK R. ED 125 928 | LENDSEY, JACQUELINE L. ED 179 361 | ED 193 058 ED 193 059 ED 193 060 |
| ED 135 696 ED 135 694 | LAMPERT, SEYMOUR ED 200 450 | LENK. ALAN ED 100 875 | MAIER JUDY ED 206 471 |
| CING. JAMES G. ED 206 469 RING. MARY LOU | LANY, STEVEN L. ED 214 838 ED 215 921 | LENT JUDITH . | , ~ Hajor. James M. ED 008 049 |
| ED 206 469 | LANDES, HANCY ED 190 350 | LEVY, ALAN. ED. ED 107 466 | HANK, EVANS R. |
| ED 175 724 KLAFF, VIVIAN | LANTER, JAMES A. ED 167 393 | LIFTIN, ELAINE ED 062 234 | MARQUIS, LEAH KEATING ED 179 980 |
| ED 113 269 RLEIMAU, MARION | LANTZ. H. B. JR. ED 107 064 ED 137 065 | LIND, JACKIE ED 167 410 | MARSH.: BOYD T. ED: 141 081 |
| ED 196 102 KLENZMAN, ELIZABETH | LAROE, EDWARD T. | LINDER, ALICE D. ED 123 095 | MARTIN F. II. ED 163 201 |
| ED 2019561 Taing, Jin | LAROÉ, MARGARET E. ED 059 958 | Liston, Louise ED 216 828 | MASON. JACK L. ED 183 392 |
| ED 158 906 EHAACK, JANEY | LARSEN BUD ED 180 812 | ED 194 349 | HATHIASON, CAROL ED 138 527 |
| ED OGE 634 | LARSON, ELSTON F. ED 087 576 | LONG CATHERY I | MATTHEWS. BRUCE ED 160 201 ED 160 203 |
| FRIC 040 | LARSON, INDERT J. ED 699 214 | LONG, CATHRYN J. ED 134 506 | ED 160 205 ED 160 206 |
| 1 ERIC - 346 | かく(物が)と 前 蝉 ま おんぼくはん | BEST COPY AVAILOR | |

| | A CHARGE IN THE CONTRACT OF TH | and winners | The state of the s |
|--|--|---|--|
| MATTREWS, BRUCE E. EU 160 282 | MCDUFFIE, CLAUDIA ED 166 016 | ED 195 396 ED 216 182 | PALMER, CYNTHIA —ED 158 801 |
| HAULDIN. LUNDIE:1 ED 193 010 ED 198 011 | MCLAUCHLIN, DENNIS ED 085 247 | MURROW, CASEY, ED. ED 174 371 | PARSONS MARY BETH ED 206 467 |
| ED 198 012 | MCLEOD, RICHARD J. ED 190 353 | MYERS, HARRIET B. ED 194 440 | PATTON, VILLIAM E. ED 187 606 |
| KD 193 213 | MEHLINGER, HOWARD D. ED 183 456 | MYERS, RAY ED 183 297 | PAUKEN, RAY ED 262 717 |
| HAY, CHARLARDA ED 210 996 MAYER, VICTOR J. | MEINKE, JAMES D. ED 179 352 | Myers, Richard S. ED 194 440 | PAYNE, CHABT L. EB 212 492 |
| ED 179 355 ED 202 724 ED 202 726 | ED 179 353 MELCHER, JOAN ED 192 005 | NELSOIT, REDCY ED 056 873 | PESKIN, JANICE ED 141 427 |
| ED 262 727 | MENGEL, WAYNE | NEMMERS. LARRY, COMP. ED 176 910 | PETERS, RICHARD O. ED 107 549 |
| ED 212 493 | MERVINE, KATHRYN E. ——————————————————————————————————— | NORMAN, JOHN, ED. ED 178 350 | PFEIFFER. CARL H. ED-053-045 ED-053-946 |
| ED 084 473 NCCABE, ROBERT H., ED. | MESSINA: JUDITH ED 114 269 | NOUS, ALBERT P. ED 164 860 ED 184 865 | PLANTZ, MARGARET C. |
| ED 144 826 SECANN. KAREN. COMP. | METRO, PETER M. ED 180 809 | NURNBERGEN, ROBERT G. ED 082 978 | POHLMAN, BETTY ED 204 1G2 |
| ED 170/896 CCARPILY, HANCY D. | ED 139 814 ED 183 363 | O'BRIEN, ALEMANDER ED 179 793 | ED 204 193 19 201 101 ED 204 165 |
| ED 092 180 ECCLELLAND, MICHAEL J. | MEYERS, PAUL A. ED 199 116 | . ED 179 795 | ED 204 186 POSTHUMA, FRED |
| EU 216 907 | MEYLAND, SARÀH J, ED 194 362 | ED 692 358 O'NEAL, ALLAN M., JR., ED. | ED 180 791 POSTHUMA, FREDRICK E., ED. |
| ED 054 993 | MILLER, BARBARA, ED. ED 199 120 | OAKES, DAVID B. | ED/154 996 POWELE, HANCY A. |
| HECREA, LESTER C. | MONTCOMERY, HERBERT ED 200 445 | OAKLEY, DEBORAH | PRATT. CAY |
| ED 120 044 ED 120 045 ED 120 046 | MONTGOMERY, MARY ED 200 445 | ed it 216 odell-fisher; ellen | PREMO, JOE |
| ED 120 048 ED 120 049 | MORRIS, BOHALD M. ED 130 927 | ED 167 421. ED 174 442 | ED 167 409 ED 167 410 |
| ED 179 395 | MORRISON, JAMES W., ED. ED 175, 728 ED 175, 729 | OGILVIE. A. BARRETTO ED 218 204 | PRESSMAN, ROB ED 133 211 ED 133 212 |
| COURT NIKI | ED 175 730 MUFFETT, BRYAN R. * | OTERO, GEORGE G., JR., COMP ED 214 642 | PRICE, CHARLES L. |
| ED 133 224 ED 133 224 | ED 176 960 MULLOY, PAUL T. | ed 215 920 Owens, Mighael | PRIDDY, MICHAEL D., ED. |
| ECDERNOTE, JOHN J., ED. | ED 179 436 MURPHY: ELAINE M. | ED 141 116 ED 120 827 | ED 165 988 |
| ERIC (99 200 348 | | BEST COPY AVAILABLE | 349 |
| | 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | A STATE OF THE SECTION AND A SECTION AND A SECTION ASSESSMENT OF THE SECTION ASSESSMENT | The same of the sa |

| | *************************************** | | • |
|---|---|--|--|
| RAILTON, ESTRER P. ED. | ED 213-582 ED 218 583 | SCHROEDER, FLORENCE ED 104 639 | SMITH, DWIGHT G. •. ED 133 213 ED 133 214 |
| RASTUSSEN, FREDERICK A. ED 160 884 ED 200 458 | ROSENSTEIN, IRWIN ED 151 123 | SCHULTZ, JUDITH M. ED 141 178 | SMITH, JEAN, M., COMP. ED 196 728 |
| E8 200 454 RAWSON, MAC | ROSENSTEIN, IRWIN, COMP ED 067 202 | ED 134 408 | SNITH, JOSEPH ED 160 203 |
| ED 194 325 REED, RONALD, ED. ED 692 883 | ROTH, CHARLES E. ED 194 349 RYAN, MICHAEL | SCHWARTZ, RICHARD H. ED 212 411 | SMITH, STEPHEN M., ED. ED. 111 664 |
| RESE, D. CHRIS ED 207 824 | ED 136 301 SÃD. GETI. COMP. | SCUDDER, ELIZABETH ED 157 764 SEXTON, ALAN B., ED. | SMELL, BLANCHE E. ED 261 421 |
| REHER. JOHN F. LD 123 034 | ED 179 484. SALTER, CHRISTOPHER L. | ed. 157 663 Shafer, angelyn K. | SNY, CHRIS ED 200 481 |
| REILLY, DENNIS ED 120 055 | ED 171 807 SANUEL, BARRY C. | ED ØGT 110 SHAFFER, CAROLYN | Snyder Clenn Ed 176 101 |
| REIHARD, WILLIAM EB 100 777 | SANTARSIERO. THOMAS | ED 183 321 SHEPARD, CLINT L. | SOMMER, LONNIE ED 164 734 |
| RICHAIUS, BONALD J. ED 033 812 | ED 133 226 ED 133 227 | ED 211 361 SHERIDAN, JACK | SPARROW, HARY E. ED 219 234 |
| RICHESOIL ISARABN ED 061 034 | SARGO, HERBERT J. ED 059 950 | ED 165 991 | SPENCER, RICHARD ED 148 581 |
| RILLO TEORAS J. | SCHAEFER, LARRY ED 133 215 ED 133 217 ED 133 218 | ED 066 464 Suillenn. James K ED 219 327 | SPICER, PRIAN, ED. ED 147 222 ED 147 223 ED 147 224 |
| RING, NOEL, ED. ED. 116 946 | SCHAEFER, LARRY, ED. ED 123 207 | SIKORA. BUB ED 086 487 | STABL. ROBERT J. ED 141 094 |
| RIS. THOMAS F., ED. ED 106 070 RITROVATO, LOU. | ED 133 298 ED 133 210 ED 170 151 ED 170 152 | SILVER, BARBARA A. ED 062 180 | STAPP, VILLIAN B. ED 199 092 |
| ED 156 478. | SCHALJO ROGER COMP. | SIMMONS. JOHN S. ED. ED 207 817 | STAUB. JOSEPH R. JR. ED 179 421 |
| ED 213 163 ED 213 164 | SCHATZ, DENNIS ED 164 875 | SIMÓNIS, DONIS G. ED 199 109 ED 199 114 | STEGNER. ROBERT W. ED 046 826 |
| ROLLER, ELIZABETH ~ | SCHERNER SHARON, ED. | SKLIAR, HORNAN | STEPHEY. MERLS ED 180 791 |
| ED 031 917 ED 039 899 | SCHLARB, KEITH N. ED 202 726 | ED 209 061 ED 209 062 | STERLING, VICKI ED 085 499 ED 086 560 |
| ROOKEY, WIN ES 176 908 | SCHLENKER, RICHARD M. ED 123 163 | SLY, CAROLIE ED 213 580 ED 213 581 ED 213 582 | STILLMAN, PETER R. ED 134 507 |
| COOT. PHYLLIS ED 113 143 | Schmidt. Joan S. Ed 912743 | ED 213 563 SMID. TAMARA | STOÈVER, EDWARD C., JR. ED 216 927 |
| ROSE, LARRY 213 580 ERIC 213 581 350 | SCHMIESS, ELHER ED 157 600 | ED 206 470 | STOKES, BRUCE ED 200 436 |
| ERIC 213 5811 350 | | BEST COPY AVAILABLE | |

351 \$

STRANIX, EDWARD L. ED 142 488 ED 142 489 GUAN, MALCOLM D. ED 167 317 GWAR, HALCOLN D., ED. ED 171 466 TWANSON, CARL P. EB 002 437 CHANSON, RICHARD L. ED 133 858 SVANT, GARY D. ED 079 048 SWARTZ, LINDA ED 180 812 SWIFT, JONATHAN ED 216 369 SWINTON, OLIVIA ED 153 859 ED 162 160 GUITZER, KENNETH A. ED 179 436 BZUNY. BONNA L. T. ED 211 361 TABER, ROBERT W. TANKER. R. THOMAS 'ED 099 126 EU 099 187 ED 099 188 ED 699 189 . ED 099 190° ED 099 191 ED 099 192 TARBUTH, LAWSON, COMP. Eb 167 311 TAYLOR, BETH ED 061, 061 TAYLOR, PAULA ... ED. 201 561 TEMPLE, BOUNIE K. ED 214 792 TERRY. MARK ED 137 075 .Eō 183 936 352

THE ISS, NANCY STEARIS, ED. ED 211 378 ED 211 379 THEORET, MARIE ED 085 248 THOMAS, JOHN W. ED 199 175 THOMPSON, BENJAMIN ED 104 639 THOMPSON, DOUG ED 176 908 -THRASHER, WILLIAM ED 138 436 THROCMORTON, LARRY, ED. ED 174 368 TILLIS, C. RICHARD, ED. ED 092 374 TILLIS, RICHARD ED 157 773 TIMMONS, JOYCE L. ED 202 719 TREAGUST, DAVID F., ED. ED 180 774 TRUSSELL, GALE ED 194 325 TULLOCK, BRUCE, ED. , ED 173 158 ED 173 159 _ ED 173 163 TULLY. RANDOLPH R., JR. ED 141 953 ED 207 824 TULLY, RANDOLPH R., JR., ED 144 332 ED 137 681 ED 157 682 TURKEL, TUX ED 134 869 TUTTON, JOYCE ED 169 256 VAIUSO, FRANK ED 045 375 VAN SICKLE, JANET

ED 120 833

VANDENHAZEL, BESSEL J. ED 171 475 VEAL, WILLIS D. ED 125 930 VINCENTI, JOHN R. . ED 219 327 WAGSCHAL, HARRY-ED 260 279 WALDHER, SUZANNE ED 085 249 WALTERS, CASEY, ED. ED 157 757 WARE, GEORGE ED 051 993 WARREN, MARK ED 195 389 WATERS, ROBERT E., COMP. ED 157 666 . WATFORD, ROBERT ED 087 688 WEEDEN, KENNETH P. ED 179 375 WERT, JONATHAN ED 137 100 WERT, JOHATHAN M. ED 100 034 ED 125 862 ED 125 855 / WEST, FELICIA E. · ED 107 489 WHEATLEY, JOHN H. ED 091 172 ED 125 868 WHEATLEY, JOIN H., ED. ED 102 031 WHITNEY, HELEH, COMP. • ED 165 972 . ED 165 973 . : ED 165 976 ED 165 976 ED 165-977 WIDUTIS, FLORENCE ED 188 977 WILEN, WILLIAM W. ED 107 606.

WILKERSON, PECCY ED 128 021 WILLIAMS, ELHER D. ___. , ED 098 034. WILLIAMS, LAVORA ED 175 718 . WILLINK, WESLEY II. ED 121 565 ED 121 566 ED 121 567 ED 121 568 WILSON, ELATRE # ED 168 725 WILSON, JUNE S., ED. ED 093 589 WINSLOW, DOHALD R. ED 201 501 WITT, FRANK C. ED 199 146 WITT, PAUL ED 137 075 WOITO, ROBERT, ED. ED 120 654 WOOD, JAYNE MILLAR ED 134 539 WRIGHT, JAN ED 133-150 .WRIGHT, JOE ED 181 656 WRIGHT, JOE, ED. ED 135 648 YAPLE, CHARLES -FD 160 284 YEATER, LARRY W. - ED 061 059 YOUNG, DONALD B. ED 210 171 ZAITLIN, SAMUEL ED 175, 723 ZAKARIYA, SALLY BANKS ED 215 939 ZUBLER, JOHN R. ED 118 360